

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**RESOLUTION NO. R2-2006-0077**

**ADOPTION OF MITIGATED NEGATIVE DECLARATION FOR THE CASTRO COVE SEDIMENT REMEDIATION PROJECT, RICHMOND, CONTRA COSTA COUNTY**

**WHEREAS:**

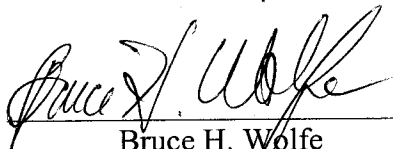
1. In June 1998, the Water Board requested Chevron Products Company to prepare a Sediment Characterization Workplan for Castro Cove. The request was based on the identification of between 10 and 100 acres of Castro Cove as a candidate toxic hot spot under the Bay Protection and Toxic Cleanup Program. In response to the request, a combined sediment sampling and tiered ecological risk assessment methodology was implemented between September 1999 and June 2001, a Corrective Action Plan (CAP) developed for the Area of Concern (AOC) identified in the tiered investigations was submitted to the Water Board in June 2002, and an addendum to the CAP was submitted on August 2, 2006;
2. On September 25, 2006, the Water Board provided to the public, responsible agencies, trustee agencies, and other interested persons, Tentative Site Cleanup Requirements and Water Quality Certification under Section 401 of the Federal Clean Water Act for remediation of sediment contamination in the AOC in Castro Cove, referred to as the Project;
3. The Water Board has assumed the lead agency role for approving the Project under the California Environmental Quality Act (CEQA at Public Resources Code § 21000 et seq.) and has conducted an Initial Study in accordance with Title 14, California Code of Regulations, § 15063 and prepared a Mitigated Negative Declaration in accordance with Title 14, California Code of Regulations, § 15070 et seq.;
4. The Initial Study preliminarily identified potentially significant effects, but revisions in the Project have been made by or agreed to by Chevron Products Company before release of the Initial Study and Mitigated Negative Declaration that would avoid or mitigate the effects to a point where no significant effects would occur. In addition, the Initial Study identified mitigation measures to avoid or reduce potentially significant impacts, which mitigation measures the Water Board will impose when approving the Project. A Mitigation Monitoring and Reporting Program (MMRP) has been prepared and is attached to the Mitigated Negative Declaration;
5. On September 25, 2006, the Water Board provided a Notice of Intent to adopt the Mitigated Negative Declaration to the public, responsible agencies, trustee agencies, and other interested persons. The Board also published the Notice of Intent in the local newspaper in the area affected by the Project, noting availability of the

Mitigated Negative Declaration, supporting Initial Study and related project documents at the Water Board's offices, the Water Board's website, and the Richmond public library. In addition, Water Board staff held a public meeting for the local community on October 4, 2006, from 6:30 - 8:00 PM in the Richmond City Council Chambers. Staff gave a presentation describing the project site, history, proposed site cleanup order, and the Initial Study and Mitigated Negative Declaration, and answered questions about several project-related issues that were raised by the meeting participants;

6. On September 25, 2006, the proposed Mitigated Negative Declaration, and supporting Initial Study and MMRP were transmitted by the State Clearinghouse (SCH No. 2006092119) and copies were independently mailed to all agencies and persons known to be interested in this matter, thus initiating a 30 day public review and comment period;
7. The Water Board has received and considered comments on the Mitigated Negative Declaration and supporting documents;
8. The Water Board finds that on the basis of the whole record that there is no substantial evidence that the Project, as revised and mitigated, will have a significant effect on the environment. The Mitigated Negative Declaration, all supporting documentation, and the record of proceedings are available at the Water Board's offices;
9. The Mitigated Negative Declaration reflects the independent judgment and analysis of the Board; and
10. The Board considered all testimony and evidence at a public hearing held November 13, 2006 in Oakland, California, and good cause was found to adopt the Mitigated Negative Declaration.

**THEREFORE BE IT RESOLVED**, that the Water Board hereby adopts the Mitigated Negative Declaration and MMRP for the Project.

**I, BRUCE H. WOLFE, Executive Officer**, do hereby certify the foregoing is a full, true, and correct copy of the resolution adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on November 13, 2006.

  
\_\_\_\_\_  
Bruce H. Wolfe  
Executive Officer

## NOTICE OF DETERMINATION

To: ☒ Office of Planning and Research

For U.S. Mail:  
P.O. Box 3044  
Sacramento, CA 95812-3044

Street Address:  
1400 Tenth Street  
Sacramento, CA 95814

From: Public Agency: CA Regional Water Quality  
Control Board, SF Bay Region  
Address: 1515 Clay Street, Suite 1400

Contact: Elizabeth Christian  
Phone: (510) 622-2335

☒ County Clerk

County of: Contra Costa  
Address: P.O. Box 350  
Martinez, CA 94553

Lead Agency:  
same as above

Subject: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Project Title: Castro Cove Sediment Remediation Project

State Clearinghouse Number: 2006092119

Project Location: Castro Cove, adjacent to Chevron Refinery, Richmond, Contra Costa Co., Assessor Parcel No.(s): 561-090-003, 561-090-004, 561-100-013

### Project Description:

The Regional Water Quality Control Board, San Francisco Bay Region (Water Board) is adopting Site Cleanup Requirements (SCRs) for Castro Cove, an embayment of San Pablo Bay located in Richmond, California. As a result of the SCRs a remedial action would be conducted that includes removal of contaminated sediments in that portion of the Cove where studies have shown that contaminants present a potential risk to benthic invertebrates—small, sediment-dwelling organisms. With the SCRs, and permits to conduct the work from the Bay Conservation and Development Commission and the United States Army Corps of Engineers, the impacted sediments would be dredged from the Cove and placed in the Number 1 Oxidation Pond, an upland location within the nearby Chevron Refinery. When removal of the impacted sediments from the Cove is complete, the biological viability of Castro Cove would be restored. In addition, after the sediments are placed in the Number 1 Oxidation Pond, this facility would be capped and closed, providing long-term protection of the environment.

This is to advise that the CA Regional Water Quality Control Board, San Francisco Bay Region (lead agency), has approved the above described project on November 13, 2006 and has made the following determinations regarding the above described project:

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.  
☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A Statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final mitigated Negative Declaration and record of project approval are available to the General Public at the Regional Water Quality Control Board, 1515 Clay St., Suite 1400, Oakland, CA.

Signature (Public Agency): [Signature]

Date: November 17, 2006

Title: Executive Officer

Date received for filing at OPR:



**CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)  
MITIGATED NEGATIVE DECLARATION (MND)**

Pursuant to: Division 13, Public Resources Code

**Description:** The Regional Water Quality Control Board, San Francisco Bay Region (Water Board) is adopting Site Cleanup Requirements (SCRs) for Castro Cove, an embayment of San Pablo Bay located in Richmond, California. As a result of the SCRs, a remedial action would be conducted that includes removal of contaminated sediments in that portion of the Cove known as the Area of Concern (AOC), where studies have shown that contaminants present a potential risk to benthic invertebrates—small, sediment-dwelling organisms. With the SCRs, and permits to conduct the work from the Bay Conservation and Development Commission and the United States Army Corps of Engineers, the impacted sediments would be dredged from the Cove and placed in the Number 1 Oxidation Pond, an upland location within the nearby Chevron Refinery. When removal of the impacted sediments from the Cove is complete, the biological viability of Castro Cove would be restored. In addition, after the sediments are placed in the Number 1 Oxidation Pond, this unit would be capped and closed, providing long-term protection of the environment.

In summary, the proposed project would consist of the following activities:

- Installation of a sheet pile enclosure to prevent dredging work from impacting other parts of Castro Cove and San Pablo Bay
- Removal of contaminated sediments from the restoration area
- Placement of the sediments within Passes 2 through 5 of the No. 1 Ox Pond
- Backfilling of the approximately 1.5-acre area immediately adjacent to the North Yard Impound Basin levee after removal of sediments to provide an area of suitable elevation for cordgrass (*Spartina*) restoration
- Allow natural accretion to backfill the dredged AOC. Add a protective sand layer on the sides of the excavations to resist shoreline erosion during natural accretion
- Monitoring of the restoration of the AOC until all physical and biological criteria have been achieved
- Restoration of *Spartina* removed from the AOC
- Construction of a protective barrier/cap over Passes 2 through 5 of the No. 1 Ox Pond

**Determination:** An Initial Study has been completed by the Water Board with technical assistance from URS Corporation and Parsons. On the basis of this study it is determined that the proposed action would not have a significant effect upon the environment for the following reasons:

- **The proposed action would have no impacts on *Agricultural Resources; Cultural Resources; Land Use and Planning; Mineral Resources; Population and Housing; Public Services; and Recreation.***

- **The proposed project would have a less-than-significant impact on *Aesthetics; Air Quality; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Transportation and Traffic; and Utilities and Service Systems* and would create less-than-significant temporary *Noise* impacts during construction only.**
- **Potentially significant impacts to *Biological Resources* would be mitigated to less than significant levels.**

The proposed project would employ the following impact avoidance and minimization mitigation measures as part of project design, as well as compensatory mitigation measures to reduce potentially significant impacts to the environment:

**BIO-1. Protection measures for sensitive anadromous fish (green sturgeon and steelhead [Central California Coastal ESU]).** As part of the Long Term Management Strategy for dredging in San Francisco Bay, programmatic-level "environmental work windows" during which dredging can be performed without formal consultation have been designated by state and federal resource agencies (CDFG, USFWS, and NMFS). The Long Term Management Strategy imposes restrictions on dredging activities in San Francisco Bay including Castro Cove during migration of anadromous salmonid fish from December 1 to May 30. In general, dredging can be performed within the environmental work window for salmonids during a 6-month period from June 1 through November 30. This time period also coincides with the dry season, which typically occurs from April through October. Dredging is possible outside of the environmental work windows after consultation with appropriate resource agencies including NOAA Fisheries, USFWS, and the CDFG. Because there is no established work window for green sturgeon, consultation is always required for that species.

The project proponent will complete sheetpile installation within the environmental work window or ensure that project design measures minimize the possibility that sensitive anadromous fish species are impacted. Impacts from the sheet pile installation will be avoided by vibrating most sheet piles in place or hammer driving the remaining piles only during low tide if work occurs outside the June 1 to November 30 work window. The sheet pile enclosure will be sealed during high tide to trap water within. Before sealing the enclosure, an appropriately sized net will be installed during a low tide event when the mudflats are exposed so that fish cannot enter and become entrapped within the enclosure as it refills. Once filled the final sheet piles would be installed to create the enclosure and isolate the area of hydraulic dredging from the Bay.

**BIO-2. Haze salt marsh harvest mouse and other small mammals from project site prior to beginning construction.** Hazing of the pickleweed habitat will be the primary method of minimizing impacts to salt marsh harvest mouse and other small mammals that might be present in the construction impact area. Hazing will be performed by a qualified biologist immediately before any habitat is disturbed. Once hazed and free of small mammals, the area will be fenced off with silt fence. The fence will prevent the

mouse and other small mammals from re-entering the impact area, eliminating the possibility of take resulting from project activities.

**BIO-3. Conduct preconstruction survey for California black rail.** Preconstruction nesting surveys will be performed by a qualified biologist for California black rail within 76 meters (250 feet) of the impact area. Surveys will be conducted during the nesting season between February and April prior to the start of construction. Black rail nests identified will be protected by a 76-meter (250-foot) avoidance buffer marked with construction fencing. Temporary loss of foraging habitat will be fully compensated by Mitigation Measure WET-2.

**BIO-4. Conduct preconstruction survey for California clapper rail.** Preconstruction nesting surveys will be performed by a qualified biologist for California clapper rails within 229 meters (750 feet) of the impact area. The surveys will be conducted within the protocol survey window from January through mid-April prior to the start of construction. Clapper rail nests identified will have a 229-meter (750-foot) avoidance buffer marked with construction fencing. Temporary loss of foraging habitat will be fully mitigated by Mitigation Measure WET-2.

**BIO-5. Discourage sensitive bird species from entering work area.** Impacts to any sensitive foraging bird species will be avoided by having a biologist on site during construction to haze any special status species birds that enter the work area.

**BIO-6. Conduct preconstruction survey for nesting saltmarsh common yellowthroat and San Pablo song sparrow.** Prior to construction, a survey will be conducted by a qualified wildlife biologist to determine the extent and location of any breeding individuals and their nests within 46 meters (150 feet) of the project area, if any. Any discovered nest that does not yet have eggs or fledglings will be removed to discourage the pair from breeding in or adjacent to the project construction areas. If a discovered nest already has eggs or fledglings, it will be clearly marked and avoided by a 46-meter (150-foot) construction buffer.

**BIO-7. Conduct preconstruction survey for sensitive plant species.** Preconstruction plant surveys will be conducted by a qualified botanist to identify whether sensitive species occur in the work area of disturbance. In the unlikely event that any of the plant species occurs in the impact area, the work area containing the sensitive plant specimen or population will be fenced off by construction fencing and the project will be redesigned to avoid work activities that could damage the plant. A biologist who is knowledgeable of the plant species' life history and habitat requirements will determine the appropriate buffer zone needed to protect the plant or plants during construction. A biologist will also be present during construction to ensure that the protected areas are not entered or otherwise disturbed.

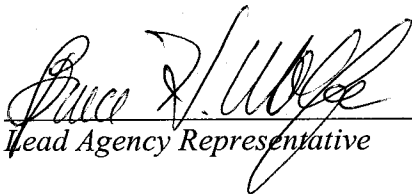

**BIO-8. Restore Pacific cordgrass or California cordgrass habitat.** Prior experience with revegetation of removed Pacific cordgrass has proven unsuccessful. In most instances natural regeneration of cordgrass occurs faster than by manual revegetation. To promote regeneration of cordgrass in locations occupied by cordgrass prior to project implementation the area of disturbance will be refilled with clean bay mud or other fine

mud and graded to match the natural contour of the tidal marsh promoting reestablishment of the species as described in the project description. Success of the native vegetation reestablishment will be monitored by a qualified botanist or restoration biologist for five years during which adaptive management will be used to achieve a native marshland habitat. Adaptive management measures will include elimination of non-native cordgrass clones<sup>1</sup>.

**WET-1. Restore salt marsh.** Any excavated salt marsh that currently contains vegetation will be returned to its pre-project elevation by backfilling with clean Bay mud or other fine mud (Figure 3.0-1). Clean Bay mud or other fine mud will be obtained from one of several ongoing dredging projects in the Bay or from other available permitted Bay or upland sources. Compacted areas will be disked, as necessary to ensure compaction of less than 85 percent. Any fencing that was installed at the beginning of the project to exclude salt marsh harvest mice from this area will remain in place until after the area has been disked. The project site will be monitored annually in September for five years or until the disturbed salt marsh areas have 80 percent aerial cover by native, obligate wetland plant species. If cover is less than 30 percent at year three post construction, then active revegetation will be implemented. If active revegetation is determined to be necessary, hazing of the pickleweed habitat will be performed as described in BIO-2 prior to the start of revegetation activities in order to avoid impacts to the salt marsh harvest mouse.

**WET-2. Restore mudflats.** The project action would remediate contaminated sediments, which would in and of itself improve beneficial uses of Castro Cove. The 1.5-acre backfilled area will be made level to mimic the shape and contour of the pre-project conditions, thus allowing for reestablishment of native vegetation community types (Figure 3.0-1). The 1.5-acre backfilled area and mudflat area, which will refill by natural accretion, will be restored to intertidal habitat as before remediation.

Mitigation monitoring would be conducted in accordance with the requirements and schedule indicated in the project Mitigation Monitoring and Reporting Program, and any other requirements stipulated in permits from resource agencies.

  
Lead Agency Representative  
Date Signed

Bruce H. Wolfe  
Executive Officer  
California Regional Water Quality Control Board  
San Francisco Bay Region

<sup>1</sup> In the Draft Initial Study, this mitigation measure provided that 'Adaptive management measures could include elimination of non-native cordgrass clones.' The language of the final mitigation measure has been modified to clarify that this adaptive management measure is mandatory.



# **MITIGATION MONITORING AND REPORTING PROGRAM**

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## **INTRODUCTION**

This document presents the Mitigation Monitoring and Reporting Program for the Castro Cove Remediation Project. Section 21081.6 of the California Public Resources Code requires that:

A public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. This mitigation monitoring program applies to mitigation measures adopted as part of EIRs or negative declarations. Mitigation monitoring is required on all projects after December 31, 1988.

The purpose of the mitigation monitoring program (program) is to ensure that the mitigation measures included in the Initial Study for the Castro Cove Sediment Remediation Project are implemented.

**CASTRO COVE REMEDIATION PROJECT  
DRAFT MITIGATION MONITORING AND REPORTING PROGRAM**

**BIO-1: Protection measures for green sturgeon and steelhead (Central California Coastal ESU)**

As part of the Long Term Management Strategy for dredging in San Francisco Bay, programmatic-level "environmental work windows" during which dredging can be performed without consultation have been designated by state and federal resource agencies (CDFG, USFWS, and NMFS). The Long Term Management Strategy imposes restrictions on dredging activities in San Francisco Bay including Castro Cove during migration of anadromous salmonid fish from December 1 to May 30. In general, dredging can be performed during the 6-month environmental work window from June 1 through November 30. This time period also coincides with the dry season, which typically occurs from April through October. Dredging is possible outside the work windows; however, consultation with the resource agencies would be required. Because there is no established work window for green sturgeon, consultation is always required for that species.

The project proponent will complete sheet pile installation within the work window or ensure that project design measures will mitigate impacts to fish species. Impacts from the sheet pile installation will be minimized by vibrating most sheet piles in place or hammer driving the remaining piles only during low tide if work occurs outside the June 1 to November 30 work window. The sheet pile enclosure will be sealed during high tide to trap water within. Before sealing the enclosure, an appropriately sized net will be installed during a low tide event when the mudflats are exposed so that fish can not enter and become entrapped within the enclosure as it refills. Once filled the final sheet piles would be installed to create the enclosure and isolate the area of hydraulic dredging from the Bay.

**Impacts Mitigated:** Adverse effects to green sturgeon and steelhead

**Lead Agency:** Regional Water Quality Control Board (RWQCB)

**Validation** RWQCB will review and approve project plans and specifications that include appropriate limitations on construction timing. Project proponent will provide a report documenting implementation of appropriate measures at end of construction.

**Timing:** **Start:** Before construction starts.

**Complete:** When construction is complete.

**BIO-2: Haze salt marsh harvest mouse and other small mammals from project site prior to beginning construction**

Hazing of the pickleweed habitat will be the primary method of minimizing impacts to salt marsh harvest mouse and other small mammals that might be present in the construction impact area. Hazing will be performed by a qualified biologist immediately before any habitat is disturbed. Once hazed and free of small mammals the area will be fenced off with silt fence to prevent the species from re-entering the impact area, eliminating the possibility of take resulting from project activities.

**Impacts Mitigated:** Adverse effects to salt marsh harvest mouse

**Lead Agency:** Regional Water Quality Control Board (RWQCB)

**Validation** RWQCB will review and approve project plans and specifications that include appropriate limitations on construction areas. Biologist will provide a report documenting implementation of measure before the start of construction.

**Timing:** **Start:** Before construction starts.

**Complete:** When construction is complete.

**CASTRO COVE REMEDIATION PROJECT  
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**BIO-3: Conduct preconstruction survey for California black rail.**

Preconstruction nesting surveys will be performed by a qualified biologist for California black rail within 76 meters (250 feet) of the impact area. Surveys will be conducted during the nesting season between February and April prior to the start of construction. Black rail nests identified will have a 76-meter (250-foot) avoidance buffer marked with construction fencing. Temporary habitat loss of foraging habitat will be fully compensated by Mitigation Measure WET-2.

**Impacts Mitigated:** Adverse effects to California black rail

**Lead Agency:** Regional Water Quality Control Board (RWQCB)

**Validation** RWQCB will sign off that appropriate surveys have taken place before construction activity commences and that either no rails are present, or that appropriate measures have been taken to protect any California black rail.

**Timing:**       **Start:** Surveys to be conducted before construction starts.

**Complete:** Buffer areas (if needed) to be maintained until construction is complete.

**BIO-4: Conduct preconstruction survey for California clapper rail.**

Preconstruction nesting surveys will be performed by a qualified biologist for California clapper rails within 229 meters (750 feet) of the impact area. The surveys will be conducted within the protocol survey window from January through mid-April prior to the start of construction. Clapper rail nests identified will have a 229-meter (750-foot) avoidance buffer marked with construction fencing. Temporary habitat loss of foraging habitat will be fully compensated by Mitigation Measure WET-2.

**Impacts Mitigated:** Adverse effects to California clapper rail

**Lead Agency:** Regional Water Quality Control Board (RWQCB)

**Validation** RWQCB will sign off that appropriate surveys have taken place before construction activity commences and that either no rails are present, or that appropriate measures have been taken to protect any California clapper rail.

**Timing:**       **Start:** Surveys to be conducted before construction starts.

**Complete:** Buffer areas (if needed) to be maintained until construction is complete.

**BIO-5: Discourage sensitive bird species from entering work area**

Impacts to any sensitive foraging bird species will be avoided by having a biologist on site during construction to haze any special status species birds that land in the construction area to forage.

**Impacts Mitigated:** Adverse effects to sensitive bird species.

**Lead Agency:** Regional Water Quality Control Board (RWQCB)

**Validation** RWQCB will review and approve project plans and specifications that include requirements for on-site biologist. Biologist will provide a report documenting procedures for hazing before construction starts, and documenting implementation of measure at the end start of construction.

**Timing:**       **Start:** When construction starts.

**Complete:** When construction is complete.

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**BIO-6: Conduct preconstruction survey for nesting saltmarsh common yellowthroat and San Pablo song sparrow**

Prior to construction, a survey will be conducted by a qualified wildlife biologist to determine the extent and location of any breeding individuals and their nests within 46 meters (150 feet) of the project area, if any. Any discovered nest that does not yet have eggs or fledglings will be removed to discourage the pair from breeding in or adjacent to the project construction areas. If a discovered nest already has eggs or fledglings, it will be clearly marked and avoided by a 46-meter (150-foot) construction buffer.

**Impacts Mitigated:** Adverse effects to nesting saltmarsh common yellowthroat and San Pablo song sparrow

**Lead Agency:** Regional Water Quality Control Board (RWQCB)

**Validation** RWQCB will sign off that appropriate surveys have taken place before construction activity commences and that either no nesting birds are present, or that appropriate measures have been taken to protect nesting birds.

**Timing:**       **Start:** Surveys to be conducted before construction starts.

**Complete:** Buffer areas (if needed) to be maintained until construction is complete.

**BIO-7: Conduct preconstruction survey for sensitive plant species**

Preconstruction plant surveys will be conducted by a qualified botanist to identify whether sensitive species occur in the work area of disturbance. In the unlikely event that any of the plant species occurs in the impact area, the work area containing the sensitive plant specimen or population will be fenced off by construction fencing and the project will be redesigned to avoid work activities that could damage the plant. A biologist who is knowledgeable of the plant species' life history and habitat requirements will determine the appropriate buffer zone needed to protect the plant or plants during construction. A biologist will also be present during construction to ensure that the protected areas are not entered or otherwise disturbed.

**Impacts Mitigated:** Adverse effects to sensitive plant species

**Lead Agency:** Regional Water Quality Control Board (RWQCB)

**Validation** RWQCB will sign off that appropriate surveys have taken place before construction activity commences and that either sensitive plants are present, or that appropriate measures have been taken to protect sensitive plant populations.

**Timing:**       **Start:** Surveys to be conducted before construction starts.

**Complete:** Buffer areas (if needed) to be maintained until construction is complete.

**BIO-8: Restore Pacific cordgrass or California cordgrass habitat**

To promote regeneration of cordgrass in locations occupied by cordgrass prior to project implementation the area of disturbance will be refilled with clean bay mud or other fine muds and graded to match the natural contour of the tidal marsh promoting reestablishment of the species as described in the project description. Success of the native vegetation reestablishment will be monitored by a qualified botanist or restoration biologist for five years during which adaptive management will be used to achieve a native marshland habitat. Adaptive management measures will include elimination of non-

**CASTRO COVE REMEDIATION PROJECT  
DRAFT MITIGATION MONITORING AND REPORTING PROGRAM**

native cordgrass clones<sup>1</sup>.

**Impacts Mitigated:** Loss of cordgrass

**Lead Agency:** Regional Water Quality Control Board (RWQCB)

**Validation** RWQCB will review and approve plans and specifications that include refilling disturbed areas with suitable muds to promote reestablishment of cord grass. Annual reports to be submitted by biologist/botanist documenting success of reestablishment. RWQCB will verify that cordgrass has become reestablished within five years after completion of construction.

**Timing:**       **Start:** Appropriate specifications to be developed during design.  
Monitoring of reestablishment to begin at the completion of construction.

**Complete:** When native cordgrass stand has become reestablished

**WET-1: Restore Salt Marsh**

The excavated salt marsh will be returned to its pre-project elevation by backfilling currently vegetated areas with clean Bay mud or other fine muds (Figure 3.0-1 of the Initial Study). Compacted areas will be disced, as necessary to ensure compaction of less than 85 percent. Any fencing that was installed at the beginning of the project to exclude salt marsh harvest mice from this area will remain in place until after the area has been disced. The project site will be monitored annually in September for five years or until the disturbed salt marsh areas have 80 percent aerial cover by native, obligate wetland plant species. If cover is less than 30 percent at year three post construction, then active revegetation will be implemented. If active revegetation is determined to be necessary, hazing of the pickleweed habitat will be performed as described in BIO-2 prior to the start of revegetation activities in order to avoid impacts to the salt marsh harvest mouse.

**Impacts Mitigated:** Loss of salt marsh

**Lead Agency:** U.S. Army Corps of Engineers and San Francisco Regional Water Quality Control Board

**Validation** RWQCB will sign off that applicant has coordinated with U.S. Army Corps of Engineers and obtained required permits as needed. Project proponent will submit maintenance and monitoring reports as required by permitting agencies.

**Timing:**       **Start:** During design.

**Complete:** Mitigation will be complete at completion of specified monitoring period (5 years or until 80 percent cover is achieved).

**WET-2: Restore Mudflats**

The project action would remediate contaminated sediments, which would in and of itself improve beneficial uses of Castro Cove. The 1.5-acre backfilled area will be made level to mimic the shape and contour of the preexisting conditions, thus allowing for reestablishment of native vegetation community types (Figure 3.0-1 of the Initial Study). The backfilled area and mudflat area will be restored to intertidal habitat as before remediation.

**Impacts Mitigated:** Loss of mudflats

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<sup>1</sup> In the Draft Initial Study, this mitigation measure provided that 'Adaptive management measures could include elimination of non-native cordgrass clones.' The language of the final mitigation measure has been modified to clarify that this adaptive management measure is mandatory.

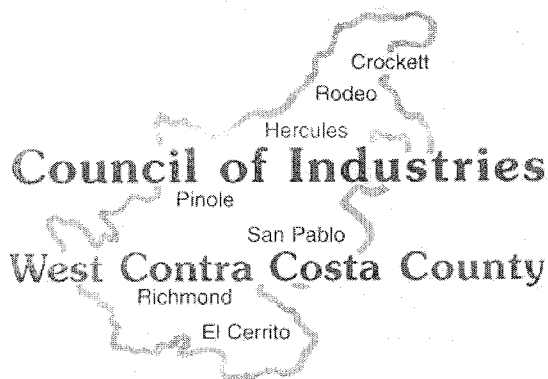
**CASTRO COVE REMEDIATION PROJECT  
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**Lead Agency:** U.S. Army Corps of Engineers and San Francisco Regional Water Quality Control Board

**Validation** RWQCB will sign off that applicant has coordinated with U.S. Army Corps of Engineers and obtained required permits as needed. Project proponent will submit maintenance and monitoring reports as required by permitting agencies.

**Timing:**       **Start:** During design.

**Complete:** Mitigation will be complete at completion of specified monitoring period.



James J. Bates, Ph.D.  
Executive Director  
P.O. Box 70088  
Pt. Richmond, CA 94807-0088  
Tel. (510) 215-9325  
Fax: (510) 215-9029  
e-mail: [coiwccc@sbcglobal.net](mailto:coiwccc@sbcglobal.net)

October 24, 2006

Ms. Elizabeth Christian  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay St. Suite 1400  
Oakland, CA 94612

Dear Ms. Christian:

I am writing to submit my comments on the Castro Cove remedial action plan and would like to commend the Water Board for its regulatory oversight and the level of information made available to the public. The online documentation regarding the site background and cleanup method is both informative and easy-to-understand.

After reviewing the Castro Cove project documents, I believe that the recommended method for remediation is a sensible approach and serves the interests of the entire community. The transfer and secure containment of impacted sediments to a site within the Chevron Richmond Refinery presents benefits to the community at large while restoring the ecological viability of Castro Cove and San Pablo Bay. Equally important, this remedial action plan minimizes potential impacts to surrounding Richmond residents and businesses. The positive results of this action plan will be realized in both the short- and long-term.

We need to continue to encourage cleanup programs like the one proposed for Castro Cove. The efforts surrounding this cleanup project will help reduce the amount of mercury in the Bay; it's a long and lengthy process, but an important one.

Thank you again for the opportunity to comment.

Sincerely,

James J. Bates, PhD.  
Executive Director

October 25, 2006



Ms. Elizabeth Christian  
San Francisco Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Dear Ms. Christian:

The Partnership for Sound Science in Environmental Policy (PSSEP) is an association of San Francisco area and statewide public and private entities – businesses, municipal wastewater treatment agencies, trade associations and community organizations. PSSEP and its members have long been engaged in a variety of matters before the San Francisco Bay Regional Water Quality Control Board.

*Bay Area  
Clean Water Agencies*

*Bay Planning Coalition*

*California Association  
Of Sanitation Agencies*

*California Council for  
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Environment Association

*Western States  
Petroleum Association*

PSSEP understands that Regional Water Board will soon consider approval of a Site Cleanup Requirement Order for the Castro Cove remediation project located in Richmond, California. PSSEP strongly supports this project, and urges the Board's approval of the SCRs.

For some time, Chevron and the Regional Board have been working to develop a cleanup plan that will benefit the entire Castro Cove ecosystem. The project will remove more than 140 pounds of mercury from the Bay and promote the Water Board's goals as outlines in it's TMDL for mercury. The cleanup plan developed by the Regional Board and Chevron is based on extensive environmental studies and meets all CEQA requirements. Moreover, several other public agencies have issued permits or reviewed project documents, including the Bay Conservation and Development Commission, U.S. Army Corps of Engineers, California Department of Fish & Game, National Marine Fisheries Service, and the State Lands Commission. All of these agencies have approved the cleanup plan.

PSSEP particularly commends the Regional Board for its specific attention to ensuring the safety of local residents by requiring that cove sediments are placed on a site located within the Chevron's Refinery property. This method avoids dozens of daily roundtrips by trucks carrying impacted sediments through Richmond neighborhoods and on local freeways to an off-site location. This method also ensures that sediments are properly stored and do not pose an impact to local residents, wildlife or the groundwater system.

PSSEP urges the Regional Board to adopt the Order to commence the cleanup of Castro Cove without delay.

Sincerely yours,

Craig S.J. Johns

Craig S.J. Johns  
Program Director





EAST BAY DISCHARGERS AUTHORITY  
2651 Grant Avenue  
San Lorenzo, CA 94580-1841  
(510) 278-5910  
FAX (510) 278-6547

A Joint Powers Public Agency

October 27, 2006

Ms. Elizabeth Christian  
San Francisco Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Dear Ms. Christian:

**Chevron Products Company, Castro Cove Sediment Remediation Project,  
Richmond, Contra Costa County - Adoption of Site Cleanup Requirements and  
Clean Water Act Section 401 Water Quality Certification**

The East Bay Dischargers Authority understands that the San Francisco Region Water Board will consider approval of a Site Cleanup Requirement Order for the Castro Cove remediation project located in Richmond, California at its November 13, 2006 Board meeting. I am writing to express the Authority's support for this project, which will positively impact this portion of San Pablo Bay.

The project will remove more than 140 pounds of mercury from San Francisco Bay and promote the Regional Water Board's goals as outlined in its recently adopted mercury TMDL. The plan is also based on extensive environmental studies and meets CEQA guidelines.

It is interesting to note that the amount of mercury that will be removed by this project is roughly equivalent to the current total load to the Bay from all municipal and industrial point sources for the next 100 years.

I encourage the Regional Water Board to adopt the Order as written. Thank you for the opportunity to comment on this item.

Sincerely,

Charles V. Weir  
General Manager

C: Commissioners  
Managers

C:\My Documents\Word Docs\General\Chevron\_Castro\_Cove\_10-27-06.doc

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Daniel Wollesenbet

November 1, 2006

Mr. Bruce Wolfe

Executive Officer

San Francisco Bay Regional Water Quality Control Board

1515 Clay St. Suite 1400

Oakland, CA 94612

Attention: Elizabeth Christian

Subject: Castro Cove Cleanup Project

Dear Ms. Christian:

I am writing to express my support for the Castro Cove cleanup project that is scheduled to be heard at the Water Board's November 13 meeting.

This project will cleanup and restore a 20-acre portion of San Pablo Bay that has been impacted due to past industrial uses. The plan developed by the Water Board, working cooperatively with Chevron, calls for the removal of nearly 180 pounds of mercury from the bay.

Once the cleanup is completed, the cove will be restored to its natural state. In addition, the area will be monitored for three years to make sure that vegetation in the wetlands areas regrows.

After careful review of the project documents, it is my firm belief that this project will positively benefit the cove ecosystem and surrounding wetlands for many years and deserves to be adopted without any delay.

The BPC was an active participant in the Bay Protection and Toxic Hot Spot Planning and Cleanup Program during the late 1980's and 1990's. Cleanups of contaminated areas in our state's waterways are an important feature of the hot spot reduction strategy and company initiatives such as this one are encouraged and applauded.

Finally, I would like to commend the Water Board for its efforts to involve community members in the public participation process. The Water Board has exceeded the requirements in this arena and deserves to be recognized. Your efforts made it easier for the public to take part in this important process.

Sincerely yours,

Ellen Joslin Johnck

Executive Director

**From:** "Gayle McLaughlin" <gaylemcl@sbcglobal.net>  
**To:** <BWolfe@waterboards.ca.gov>, <EChristian@waterboards.ca.gov.>  
**Date:** 10/25/2006 12:22:04 PM  
**Subject:** Comments on Proposed Mitigated Negative Declaration on Castro Cove

October 24, 2006

Mr. Bruce Wolfe

Executive Director

Regional Water Quality Control Board, San Francisco Bay Region

1515 Clay Street

Oakland, CA 94612

Dear Mr. Wolfe:

Re: Draft Initial Study and Proposed Mitigated Negative Declaration  
Castro Cove Sediment Remediation Project, Richmond, California  
September 25, 2006

I am writing in response to the proposed Mitigated Negative Declaration on Castro Cove which has a response deadline of October 25, 2006.

I commend the Water Board for continuing to make attempts at keeping our water safe including our prized 32-mile Richmond shoreline. The Water Board's focus on the San Francisco Bay cleanup through marsh and shoreline habitat restoration is greatly appreciated by the public. The cleanup of Castro Cove is a high priority for all of us. Documents relating to the Castro Cove site were made available on your website during the last few weeks at [http://www.waterboards.ca.gov/sanfranciscobay/pub\\_notice.htm](http://www.waterboards.ca.gov/sanfranciscobay/pub_notice.htm).

I want to register my concern that the Water Board did not sufficiently reach out to alert the community of the proposed intent to spread out and bury 112,000 cubic yards of dewatered Castro Cove toxic slurry over a 66-acre area. The 112,000 cubic yards includes an estimated 190 pounds of mercury, an undetermined amount of polycyclic aromatic hydrocarbons (PAHs),

Dieldrin, selenium and other toxins.

The toxic slurry would be spread on top of an existing six-foot deep oily sludge wasteland, otherwise known as Chevron's Oxidation Pond No. 1. The proposal suggests another 60,000 cubic yards of processed soil from the Chevron facility would be layered on top of the slurry. Oxidation Pond No. 1 would be covered with a "stabilizing cap" and 7 foot holes would be drilled in a wide grid throughout the 66-acres where concrete or other "stabilizing" material would be poured to create a sort of giant 66-acre concrete block, 7-feet deep. This giant concrete block would sit atop the lower levels of oily sludge that rest on the not-so-permeable Bay Mud. The proposal briefly references an existing groundwater protection system, which is supposed to block leaks into the groundwater and prevent the repollution of Castro Cove.

If I understand the proposal, Chevron sidestepped a more expensive alternative to haul the toxic material to a licensed offsite disposal facility as proposed in Chevron's Corrective Action Plan, 6/7/2002. I want to know more about why that alternative is not considered more preferable and whether long-term permanent monitoring, ongoing upkeep and maintenance of the 66 acre concrete block and possible future cleanup costs relating to permanent burial of the toxins on site, were included in the comparison.

This project appears to be far more complex and the "mitigations" proposed seem to be more in line with a full Environmental Impact Report than a Mitigated Negative Declaration. The community wants and needs an opportunity to review the extensive and complex documents written by Chevron's environmental consultants over the last eight years. If it took Chevron eight years to get to a solution, how can the mostly volunteer-public grasp and comment on the details in a few short weeks?

I encourage you to reach out to other Cal EPA agencies and other professionals with extensive experience in the permanent storage of large quantities of hazardous waste at or near bodies of water in an earthquake zone to determine if the disposal of the toxic waste is "Less than Significant with Mitigation" as you describe. It appears to me that the project qualifies for a "Potentially Significant Impact" and should not be considered for a Negative Declaration. The Water Board should step back and revise plans and move into a full Environmental Impact Report.

I appreciate the good and ongoing service the Water Board and its employees provide to our community every day. I hope that you will give more emphasis to community notice and outreach and that that you will give my comments consideration as you deliberate how to proceed with Chevron's Castro Cove

proposed Negative Declaration.

Sincerely,

Gayle McLaughlin

Richmond City Councilmember

Copy: U.S. EPA Region IX, Keith Takata, r9.info@epamail.epa.gov  
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City of Richmond Mayor Irma Anderson,  
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**From:** Gina Hagg <ghagg@yahoo.com>  
**To:** Elizabeth Christian <EChristian@waterboards.ca.gov>  
**Date:** 10/25/2006 3:07:01 PM  
**Subject:** Comments for Castro Cove project have been delivered today at 2:15pm.

Ms.Christian,  
My comments for Castro Cove project have been delivered and a receipt have been obtained for the Comments letter shown below. Copies of this letter have been also provided with receipts to Mr.Bruce Wolfe, Mr. Seward, Ms. Potter and Mr. Curtis.

I thank you,

Gina Hagg

October 24, 2006

Ms. Elizabeth Christian  
Project Manager  
Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street  
Oakland, CA 94612

Subject: Comments to  
Draft Initial Study and Proposed Mitigated Negative Declaration  
CASTRO COVE Sediment Remediation Project Richmond, California

Dear Ms. Christian,

1. We are concerned that the proposed in situ mixing of cement with the excavated sediments (in a process known as solidification/stabilization - S/S) followed by capping and surface water and groundwater flow diversion/collection, is sufficient to prevent further releases of polycyclic aromatic hydrocarbons (PAHs), heavy metals and other pollutants that would adversely affect public health and the environment.

The concern is relative to the proposal that Castro Cove "Sediments added into the No. 1 Ox Pond, Passes 2 through 5 would be solidified and stabilized in-place", which is briefly and inadequately described in the Draft Initial Study, Section 3.6, page 16.

2. The Draft Initial Study and Negative Declaration report has not identified the potential technical problems that most likely will occur as a result of this process.

3. The No. 1 Ox Pond bottom layer of material is highly organic and heavily contaminated with chlorinated organics such as PAHs and heavy metals. The process of drilling into this highly variable material, which may in some cases exhibit fluid-like properties, will no doubt release contaminants to the aquatic environment during the process of solidification. The continued process to solidify the bottom will by its nature also force contaminants,

from their existing state (that of being bound with the organic matter of the bottom), into the aquatic environment.

4. What is the planned bore hole spacing?
5. How is the operator going to control preferential flow path of grout material?
6. Is this proven technology? Will this procedure hold for the long term (long term performance)?

Overall, although S/S treatment of solid wastes has been widely applied, largely because it is initially cheaper than removal and adequate treatment of the wastes, it is not a proven technology that has been successfully demonstrated on similar wastes to the Castro Cove/No. 1 Ox Pond sediments.

Erroneously assuming that prior use of S/S treatment at other sites is equivalent to a demonstration that it is a proven technology. As discussed by Lee (Lee, G. F. (2006a). Comments on "Remediation of Sydney Tar Ponds and Coke Ovens Sites Environmental Impact Statement, Sydney, Nova Scotia,"), the S/S treatment approach has not been adequately and reliably evaluated with respect to prevention of release of pollutants over the time that the pollutants in the S/S-treated soils will be a threat. It has been Lee's experience in reviewing Superfund site allowed approaches for remediation that the approaches adopted often do not adequately and reliably consider the long-term effectiveness in preventing future environmental pollution.

Drs. Lee and Jones-Lee concluded, based on their experience and the literature, that solidification/stabilization, capping and flow diversion approach was not a reliable approach for immobilization/containment of the pollutants in the Tar Ponds sediments.

7. We are concerned that this is not a "walk-away" approach. Considerable intervention would be needed to adequately monitor and maintain the S/S-treated sediments and the flow diversion structures that Chevron proposed be used to keep surface water and groundwater from entering the S/S-treated sediments and from leaving the treated sediments to cause further pollution of the estuary.

We are afraid that we will inherit the responsibility for post remediation of the Castro Cove sediments. We could conclude that the S/S treatment of these sediments, and the associated capping and flow diversions, is not a reliable approach.

From Conner, J. (1990). (Chemical Fixation and Solidification of Hazardous Wastes, VanNostrand Reinhold, NY, NY, 692pp.)

To date, there has been little or no verification of these tests [leach test results] to ensure that they accurately predict behavior of the treated material in the field setting.

\* \* \*

Even though S/S has been used for over 30 years there is no direct evidence of long-term material durability in the field. The durability of a S/S waste is dependent on how well it endures long term exposure to environmental stresses. A number of physical and chemical tests have been applied to S/S wastes to



determine the durability of the material. Generally, these tests are short term tests and do not give a full correlation to field performance.

Further, Means et al. (1996) stated:

The long-term performance of treated waste is not clearly understood, and no definitive test procedures exist to measure or assess this property. The Toxicity Characteristic Leaching Procedure (TCLP) is not an adequate measure of long-term leaching. Monitoring data from field disposal sites are needed to detect the premature deterioration of solidification or stabilization of previously processed wastes. Because of the uncertainties surrounding long-term performance, wastes previously treated using S/S and disposed of may have to be retrieved and retreated in the future.

In addition, Wiles and Barth (1992) of the US EPA stated:

However, results of several studies, as well as data from remediation of several Superfund sites, have raised concerns about whether S/S is a valid technology for treating organic-bearing wastes.

Furthermore, studies also provide evidence that tests other than the regulatory extraction tests [for example, toxicity characteristic leaching procedure (TCLP)] will be required to evaluate the effectiveness of S/S, especially when applied to organic wastes.

These results suggested that any successful durability test or predictive model will have to account for significant chemical and structural changes over time that influence leaching rate.

The durability of S/S wastes remains unclear, in part [due] to the relative time that the technology has been used, and to the lack of information on the sites using it.

Evaluation of S/S process design, performance, and treatment efficiency should be based on a matrix of several testing protocols. No single test, such as TCLP, can provide all the information required to evaluate contaminant release potential, contaminant release rate, and physical durability. An appropriate test matrix to evaluate S/S processes should include tests that will address these factors.

Barth (pers. comm., 2006) indicated that the situation today is no different than it was in 1992 when he and Wiles developed their paper on this issue. There is still a lack of reliable information on the long-term effectiveness of S/S treatment of wastes that are high in organic content.

Thornburg et al. (2006), in a recent study of the "Effectiveness of in situ Cement Stabilization for Remediation of Sediment Containing Coal Tar Derived Hydrocarbons," found that S/S treatment of these organic sediments was not effective in preventing release of pollutants from them.

The STPA literature review on the effectiveness of S/S treatment for contaminated soils and sediments failed to reference the work of others, such as cited above and in Lee (2006a), on the potential problems with S/S treatment being an effective method of long-term prevention of release of pollutants from the treated sediments/soils. The Agency also failed to mention readily available references in the literature to the inappropriateness of using the TCLP for evaluating effectiveness of S/S treatment.

8. How will Chevron ensure that the entire area is solidified?
9. How is the shoreline interface going to be handled?
10. Have there been leachability tests carried out on the final product to

determine whether the contaminants would get into the receiving environment (ground water or surface water)?

11. The Negative Declaration should explain and detail information on the leacheability of the contaminants from this grout mixture over time.

12. Dewatered PAH materials will be conditioned with inert materials. "The blend material will be flyash, lime or quicklime...

Declaring flyash an inert material is hardly a best management practice.

13. Provide scientific justification that flyash is an inert material in light of the fact that it is toxic waste.

14. Attention should also be given to all applicable policies, guidelines, codes, standards, and best management practices that would contribute to avoidance or reduction of adverse impacts if followed.

15. Provide details and cost of the onsite conditioning area to control odors/vapors. Spillage, run off/drainage, additives and residuals.

16. Has Draft Initial Study and Negative Declaration report included risk from heavy metals in these conditioning materials. Please provide data.

17. Long term monitoring of S/S waste are not included in the Negative Declaration.

18. Both cost estimates and risk analysis of the long term monitoring plan is meaningless without a fully developed plan.

19. Please provide the plan and cost and risk analysis water and air emissions.

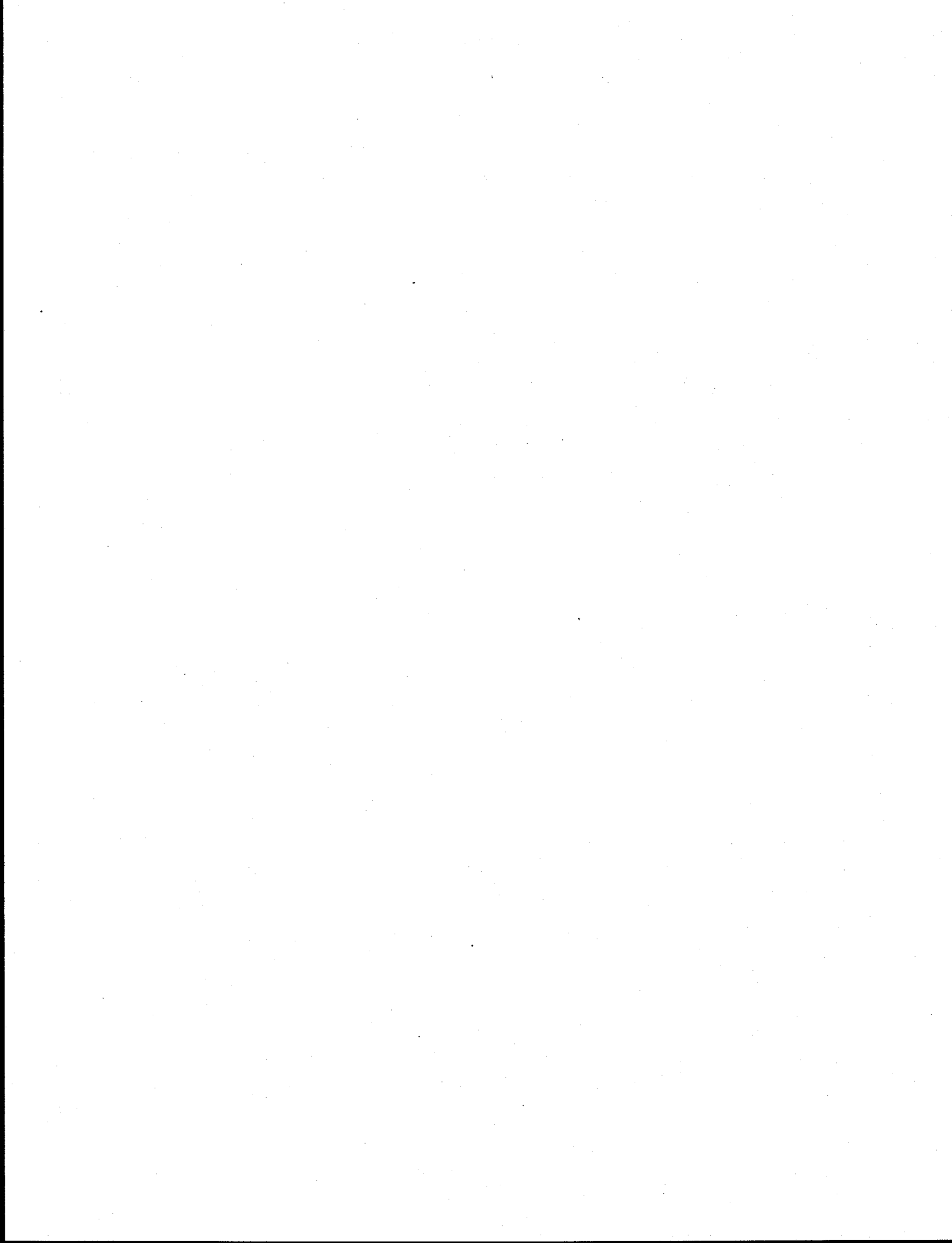
Sincerely,

Gina Hagg  
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Richmond, CA 94804

Copy: U.S. EPA Region IX, Keith Takata, r9.info@epamail.epa.gov  
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Dr. Henry Clark  
West County Toxics Coalition  
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OCT 25 2006

"QUALITY CONTROL BOARD"

October 23, 06

Regional Water Quality Control Board  
Elizabeth Christian, Project Manager  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Subject: Comments to draft Initial Study/Proposed  
Negative Declaration (ND) Castro Cove  
Sediment Remediation Project in Richmond, CA

Dear Ms. Christian,

As a resident of Richmond and Director of an  
Environmental Justice Organization, I am concerned  
that the storage of mercury in the oxidation ponds  
will create a permanent Hazardous Waste Storage  
"facility" that will not be protective of the environment  
and bay waters.

(1) Recommendation: The mercury and (PAHS) polycyclic aromatic  
hydrocarbons should be trucked off to a legal  
hazardous waste disposal site.

Thank you for considering my comments and recommendation.

Sincerely,  
Dr. Henry Clark



October 21, 2006

Mr Bruce Wolfe, Executive Officer  
& Board Members  
Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street  
Oakland, CA 94612

Subject: Comments to Draft Initial Study and Proposed Negative Declaration (ND)  
Castro Cove Sediment Remediation Project, Richmond, California

Dear Mr. Wolfe and Board Members,

I live in the Marina Bay neighborhood in Richmond, California. I have only recently become aware of proposed work at Castro Cove, and have the following questions and comments about the above environmental document for the proposed action:

- 1) Castro Cove is an embayment of San Pablo Bay, and a tidally-influenced portion of San Francisco Bay. As such, it is considered a Waters of the United States, under the jurisdiction of the US Army Corps of Engineers, and is also administered by US Fish and Wildlife and other federal agencies having statutory authority. Typically, when a federal permit or other action would be required, compliance under the National Environmental Policy Act (NEPA) would be necessary. The NEPA equivalent of the draft ND would be a draft Environmental Assessment and Finding of No Significant Impact. Since Castro Cove is a resource with federal jurisdiction, could you please explain why NEPA documentation was not prepared? If a federal agency such as US Environmental Protection Agency (USEPA) delegated its authority or otherwise authorized a State regulatory agency under the California Environmental Quality Act (CEQA) to act on its behalf, please explain.
- 2) The ND appears to "piecemeal" or otherwise fragment the environmental analysis for the proposed work. The document does not appear to address all the potential effects or impacts since it does not characterize the existing condition and nature of the No. 1 Oxidation Pond ("Ox Pond") where the dredged material would be placed. A reader assumes that the oily material in the Ox Pond is hazardous material, and that by depositing 80,000 cubic yards of the dredged material from Castro Cove, there will be an additive and cumulative effect and therefore a potentially significant impact. Please evaluate how the proposed activity would be protective of human health and the biota, especially in terms of groundwater contamination or recontamination of the tidally-influenced zone.

If the project is looked at in all its various parts, I believe it merits an Environmental Impact Report (EIR) as opposed to the ND. Since the ND is a lower level document than an EIR the scoping process did not include public participation. Scoping is the process of determining the coverage, focus, and content of an EIR as proscribed in CEQA, and helps to identify the range of actions, alternatives, environmental effects, and mitigation measures to be analyzed in depth. The scoping process also brings together and resolves the concerns of

all interested parties: proponents, opponents, and interested governmental agencies. Compared to an ND, an EIR receives a more robust review by regulatory agencies and other bodies involved in the public trust.

- 3) It is difficult for the reader to determine if the project proponent intends to rely on this ND as environmental clearance for future work at the site of the Ox Pond. Please clarify.
- 4) What is the status of the waste discharge monitoring system and related groundwater corrective action measures? Please provide copies of the 2-year monitoring report (required pursuant to Order 00-043 Waste Discharge Requirements, 6/21/2000) for Castro Sector and North Yard Sector (see Table 2 of Order 00-043.) Since this information is needed by the reader to evaluate potential cumulative impacts, it further exemplifies piecemealing of the study.
- 5) There is no study of the long term storage of hazardous material in the Ox Ponds.
- 6) In Section 6.8, Water Quality / Hydrology, the report states that the levee has a history of subsidence but does not qualify the nature, cause, duration, or impacts of this effect. Since the levee is a key structure in the proposed containment system, please explain this in greater detail. Also, since there is a history of subsidence, there would also be a history of repair and maintenance actions. Please elaborate on that as well, and compare and contrast those actions with the proposed mitigation entailing the use of geotextiles to stabilize the levee. Was the so-called GPS affected by this subsidence?
- 7) What is the age and existing condition of the wall or dike described on page 7 and shown on Figure 1.1?
- 8) Please show a cross-section graphic based on the text in Section 3.6 (page 16). The reader is left guessing as to the proposed dimensions of the horizons described and the appearance of the final proposed configuration.
- 9) There appears to be a conflict in the CEQA Initial Study Checklist and Discussion. In Section 6.4, *Biological Resources*, the report states that the project could have a "less than substantial effect with mitigation" on biota and wetlands. While not clearly spelled out, the reader assumes that the potential effect on wildlife would be exposure to hazardous material. However, in Section 6.7, *Hazards and Hazardous Materials*, the checklist is completed to show that there is little or no effect from hazardous waste, despite the fact, as only one example, that the project will move up to 190 pounds of mercury. This duality does not appear to be plausible, and requires explanation. The potentially significant impact to wildlife is but one scenario of impacts from hazardous waste; where are the others discussed, and is the project designed to be protective of human health? Unless those potential impacts are discussed in the ND, this cannot be evaluated.
- 9) How will the mercury be resolved or otherwise remediated?
- 10) Since the sources of the polycyclic aromatic hydrocarbons (PAHs) have not been identified, how can the public be assured that this or other unsourced constituents of concern would not reappear?
- 11) In the Corrective Action Plan (URS, 2002) on page 35, Section 6.1, that report states "from a regulatory perspective, use of the ponds as a disposal location could pose



challenges.” What are those challenges, and how were they addressed in the ND and the proposed mitigation strategy?

There are also some general concerns I would like to convey. Specifically:

- There was not enough time to review the ND, and compare it with other information.
- There appears to be limited public involvement since interested parties found out by word of mouth. Public outreach did not appear adequate.
- Elected officials who would otherwise be active in environmental matters were unable to participate due to the upcoming election.
- There did not appear to be coordination in conducting public outreach with sister State agencies such as Department of Toxic Substance Control.

Thank you for your attention to the above request for clarification and additional information.

Sincerely,

*Original Signed By*

Joseph H. Robinson  
117 Shoreline Court  
Richmond, CA 94804-4588

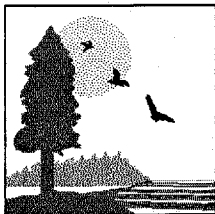
cc: Hand-carried copies to RWQCB for:

- Board Members
- Mr. Curtis Scott
- Ms. Elizabeth Christian
- Mr. Terry Stewart, Sr Engineer
- Ms. Sandia Potter, Public Information

Copy: U.S. EPA Region IX, Keith Takata, r9.info@epamail.epa.gov  
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October 26, 2006

File Ref: W 26180

Elizabeth Christian  
Water Resources Control Engineer  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Dear Ms. Christian:

Thank you for the opportunity to review and comment on the Draft Initial Study and Proposed Mitigated Negative Declaration for the Castro Cove Sediment Remediation Project in Richmond, Contra Costa County, California.

Jurisdiction

As you are aware, the proposed remediation project will involve State-owned lands under the jurisdiction of the California State Lands Commission (CSLC). The CSLC is entrusted to oversee the Public Trust on sovereign public property right held by the State as its delegated trustee for the benefit of all the people. This right limits the uses of these lands to waterborne commerce, navigation, fisheries, open space, recreation, or other recognized Public Trust Purposes. A lease from the Commission is required for any portion of a project extending onto State-owned lands, which are under its exclusive jurisdiction. CSLC received an application to lease such lands for the proposed project on September 26, 2006 from Chevron USA.

Comments on the Proposed Mitigated Negative Declaration

Page 7, Summary of the Proposed Project Activities and Page 13, Section 3.3. The Summary should include the activity of discharging the decant water to San Pablo Bay, and this activity should also be described in more detail in Section 3.3 as it is an important aspect of the project. In addition, the last sentence of Section 3.3 states that the water would be "treated", if needed, prior to permitted discharge to San Pablo Bay. It is not clear if this treatment would be the flocculation and carbon filters, or some other

treatment that is not described in this section. The treatment method should be clarified.

Page 33, Setting in Biological Resources. The document should identify any eelgrass beds in the Shallow Subtidal areas, and if none exist it should so state.

Page 33, Discussion. The environmental data for endangered species should not have been limited to only the San Quentin Quad as 60-70% of that quad is open water (see next comment).

Page 41, Potential Impacts to Federal and State Listed Plant Species and Table 6.4-1 (page 49). This section should also include Soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*). This is a Federally-listed endangered/State Listed rare species and there is a known occurrence within two miles north of the project.

Page 44, BIO-7. This mitigation measure should specify that preconstruction surveys for sensitive plant species will be conducted during the months of July through September, which is the appropriate season for the plants listed in the Proposed Draft MND.

Page 44, BIO-8. This mitigation measure should state that "Adaptive management measures **will include** elimination of non-native cordgrass clones", not ...**may include...**" The measure should specify how the project will ensure that non-native cordgrass or other invasive species do not invade the restored areas, and the control measures that will be used if they do invade the restored areas.

If you have any questions about these comments, please contact me at 916/574-0748.

Sincerely,

Mary Menconi  
Staff Environmental Scientist  
Division of Environmental Planning and  
Management

CC: Donn Oetzel  
Eric Gilles

## RESPONSE TO COMMENTS ON THE SEPTEMBER 25, 2006 MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY FOR THE CASTRO COVE SEDIMENT REMEDIATION PROJECT

The Regional Water Quality Control Board, San Francisco Bay Region (Water Board) would like to thank the interested parties that have devoted their time and effort to review and provide input on the Castro Cove Sediment Remediation Project. Water Board staff appreciates the efforts that the interested parties have made by submitting written comments on the Proposed Mitigated Negative Declaration and supporting Initial Study.

Water Board staff has reviewed and considered the comments received. Letters in support of the proposed project that do not raise issues or concerns necessitating responses were submitted by the following interested parties:

- James J. Bates, Executive Director, Council of Industries, West Contra Costa County
- Craig S. Johns, Program Director, Partnership for Sound Science in Environmental Policy
- George Smith, President of GBR Smith Group, LLC
- Charles W. Weir, General Manager, East Bay Dischargers Authority
- Ellen Johnck, Executive Director, Bay Planning Coalition

Staff notes and appreciates the supportive statements provided by the commenters listed above.

Several comment letters were received that expressed concerns about project-related issues. A response to each comment is provided below, organized by commenter in the order received.

### 1. Comment letter received from Gayle McLaughlin, Richmond City Councilmember, on October 25, 2006

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*Comment 1a: I commend the Water Board for continuing to make attempts at keeping our water safe including our prized 32-mile Richmond shoreline. The Water Board's focus on the San Francisco Bay cleanup through marsh and shoreline habitat restoration is greatly appreciated by the public. The cleanup of Castro Cove is a high priority for all of us. Documents relating to the Castro Cove site were made available on your website during the last few weeks at [http://www.waterboards.ca.gov/sanfranciscobay/pub\\_notice.htm](http://www.waterboards.ca.gov/sanfranciscobay/pub_notice.htm).*

**Response:** The Water Board appreciates the commenter's interest in the proposed Castro Cove Sediment Remediation Project and her support for the Water Board's programs to maintain the Bay's health by cleaning up and restoring marsh and shoreline habitat.

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*Comment 1b: I want to register my concern that the Water Board did not sufficiently reach out to alert the community of the proposed intent to spread out and bury 112,000*

*cubic yards of dewatered Castro Cove toxic slurry over a 66-acre area. The 112,000 cubic yards includes an estimated 190 pounds of mercury, an undetermined amount of polycyclic aromatic hydrocarbons (PAHs), Dieldrin, selenium and other toxins.*

**Response:** The Water Board has fully complied with the public notification requirements of CEQA. The Water Board submitted the Initial Study and proposed mitigated Negative Declaration to the State Clearinghouse and provided a 30-day public review period. In addition, a fact sheet was mailed to interested parties and an informational meeting was held at the City of Richmond's Council Chambers on October 4, 2006. Additional comment may be provided on November 13, 2006, at the Water Board's hearing to consider certifying the environmental document and approving the Site Cleanup Requirements.

The volume of sediments to be removed from Castro Cove is estimated to be approximately 80,000 to 100,000 cubic yards. This information is contained in the Site Cleanup Requirements and the Initial Study. The commenter is correct that this volume is estimated to contain up to 190 pounds of mercury and additional, but not quantified, constituents.

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**Comment 1c:** *The toxic slurry would be spread on top of an existing six-foot deep oily sludge wasteland, otherwise known as Chevron's Oxidation Pond No. 1. The proposal suggests another 60,000 cubic yards of processed soil from the Chevron facility would be layered on top of the slurry. Oxidation Pond No. 1 would be covered with a "stabilizing cap" and 7 foot holes would be drilled in a wide grid throughout the 66-acres where concrete or other "stabilizing" material would be poured to create a sort of giant 66-acre concrete block, 7-feet deep. This giant concrete block would sit atop the lower levels of oily sludge that rest on the not-so-permeable Bay Mud. The proposal briefly references an existing groundwater protection system, which is supposed to block leaks into the groundwater and prevent the repollution of Castro Cove.*

**Response:** As noted in the Initial Study, the oily materials in the No. 1 Oxidation Pond would be mixed with cement, lime, fly ash, bottom ash, or cement kiln dust and approximately 60,000 cubic yards of non-hazardous soil from other Refinery locations to produce a cap of stabilized material over the site. The mixture would not form a "concrete block." The stabilized material is expected to have the consistency of dry, compacted soil. The stabilized material would be covered with a layer of soil and planted with grass. The Water Board expects that the proposed stabilization would provide long-term geotechnical stability to the materials in the pond. The stabilization process is not being conducted for purposes of containing or treating the oily materials in the pond nor is the stabilization process necessary to contain or to treat them.

The No. 1 Oxidation Pond is a regulated inactive waste management unit that needs to be formerly closed and capped. Closure and capping is being conducted

in full compliance with the closure regulations specified in CCR Title 27, Section 21090 and Board Order No. 00-043.

The process of stabilization would be performed by excavators or specialty equipment equipped with reagent injection holes. The specialized equipment would thoroughly mix the sediment slurry, oily materials, and soil with solidification reagents to form a relatively homogenous 6 to 7 foot layer of stabilized material over the 66 acres to provide a geotechnical base to support a vegetative cap.

The commenter is correct in stating that the Bay Mud beneath the No. 1 Oxidation Pond has a low permeability and that Chevron has installed a groundwater protection system around the site. Based on the information contained in Board Order No. 00-043 for the No. 1 Oxidation Pond and summarized and documented in the Initial Study, the Water Board concludes that these systems plus the upward hydraulic gradient at site ensure that the quality of groundwater and nearby surface water, including Castro Cove, is protected.

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*Comment 1d: If I understand the proposal, Chevron sidestepped a more expensive alternative to haul the toxic material to a licensed offsite disposal facility as proposed in Chevron's Corrective Action Plan, 6/7/2002. I want to know more about why that alternative is not considered more preferable and whether long-term permanent monitoring, ongoing upkeep and maintenance of the 66 acre concrete block and possible future cleanup costs relating to permanent burial of the toxins on site, were included in the comparison.*

**Response:** During project development, Chevron estimated that shipping approximately 80,000 to 100,000 cubic yards of sediments to a landfill would generate approximately 70 daily truck round trips during construction. These truck trips would have greater potential impacts to nearby roads and intersections and to air quality than the project as proposed. As a result Chevron elected to include on-site management of the Castro Cove sediments. Because no significant impacts have been identified for the project as proposed, CEQA does not require an alternatives analysis.

The site would be monitored as part of the Refinery's ongoing groundwater monitoring program, as required by Board Order No. 00-043.

Costs were not considered in the environmental analysis. Cost is not a CEQA issue.

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*Comment 1e: This project appears to be far more complex and the "mitigations" proposed seem to be more in line with a full Environmental Impact Report than a Mitigated Negative Declaration.*

**Response:** Based on the Initial Study, the Water Board has determined that this project does not satisfy the conditions requiring preparation of an EIR because the project proponent has agreed to implement project design measures and mitigation measures that will reduce any potentially significant impacts to a level of insignificance. Under CEQA, the complexity of a project or mitigation measures is not a reason to require an EIR.

The Water Board finds, in fact, that the proposed project is relatively simple. It consists of a site cleanup, the disposal of dredged sediments, and site restoration. It occurs on land with simple land ownership and with no change in land use. It does not bring new population to the area or expose people to increased risk of exposure to contaminants.

Chevron has incorporated all proposed mitigation into the project, and the project would not result in significant unavoidable impacts.

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*Comment 1f: The community wants and needs an opportunity to review the extensive and complex documents written by Chevron's environmental consultants over the last eight years. If it took Chevron eight years to get to a solution, how can the mostly volunteer-public grasp and comment on the details in a few short weeks?*

**Response:** See Response to Comment 1b.

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*Comment 1g: I encourage you to reach out to other Cal EPA agencies and other professionals with extensive experience in the permanent storage of large quantities of hazardous waste at or near bodies of water in an earthquake zone to determine if the disposal of the toxic waste is "Less than Significant with Mitigation" as you describe. It appears to me that the project qualifies for a "Potentially Significant Impact" and should not be considered for a Negative Declaration. The Water Board should step back and revise plans and move into a full Environmental Impact Report.*

**Response:** The Initial Study and proposed mitigated Negative Declaration were transmitted to the State Clearinghouse on September 25, 2006 and the clearinghouse notified State agencies of the availability of the documents for their review and comment. No comments were received from other Cal EPA agencies. Comments received from other professionals are addressed in this response to comments document.

The materials in the No. 1 Oxidation Pond and the sediments from Castro Cove have been carefully characterized and are not regulated as hazardous wastes by State or federal criteria. Thus, the proposed action would not create a hazardous waste storage facility.

Potential seismic impacts of the proposed project are addressed in the Geology and Soils section of the Initial Study. None were found to be significant. Given



the lack of potentially significant impacts, the Water Board concludes that an EIR is not required.

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*Comment 1h: I appreciate the good and ongoing service the Water Board and its employees provide to our community every day. I hope that you will give more emphasis to community notice and outreach and that that you will give my comments consideration as you deliberate how to proceed with Chevron's Castro Cove proposed Negative Declaration.*

**Response:** The Water Board appreciates the comments provided and will consider them before acting on the proposed mitigated Negative Declaration and Site Cleanup Requirements at its November 13, 2006, meeting.

**2. Comment letter received from Gina Hagg, City of Richmond Resident, on October 25, 2006.**

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*Comment 2a: We are concerned that the proposed in situ mixing of cement with the excavated sediments (in a process known as solidification/stabilization \* S/S) followed by capping and surface water and groundwater flow diversion/collection, is sufficient to prevent further releases of polycyclic aromatic hydrocarbons (PAHs), heavy metals and other pollutants that would adversely affect public health and the environment.*

**Response:** The stabilization process is being conducted for geotechnical purposes only. It is not intended to provide containment or chemical treatment of the oily materials in the pond. These oily materials are currently hydraulically isolated from the aquatic environment of the Bay by the Refinery Groundwater Protection System (GPS) consisting of a series of extraction trenches and barrier walls completely enclosing the No. 1 Oxidation Pond, the underlying Bay Mud, and an upward hydraulic gradient. The geotechnical stabilization process would be an enhancement to the interim corrective action for the No. 1 Oxidation Pond which was approved by the Water Board in 2004, pursuant to Board Order No. 00-043, which implements the requirements of California Code of Regulations Title 27 regulations for Chevron's discharge of non-hazardous waste to land.

As noted in the Initial Study, the excavated Cove sediments and oily materials in the No. 1 Oxidation Pond would be mixed in the pond with cement, lime, fly ash, bottom ash, or cement kiln dust and approximately 60,000 cubic yards of non-hazardous soil from Refinery construction projects to produce a geotechnically stabilized layer over the site. This geotechnical stabilization would provide a structural base for the construction of a vegetative cap over the site. This cap would eliminate potential exposure pathways to human and ecological receptors.

As summarized in the Draft Corrective Action Plan (CAP) for the No. 1 Oxidation Pond, the hydrologic and hydrogeologic data demonstrate that (1) runoff of

constituents of potential concern (COPCs) to the Bay does not occur because stormwater from the site is collected and treated by the Refinery's effluent system, and (2) groundwater is contained for the following reasons:

- Containment of "A" Zone groundwater by the groundwater protection system (GPS);
- The presence of the Recent Bay Mud Aquitard between the "A" and "C" Zones;
- The presence of upward vertical hydraulic gradients within the "C" Zone, as well as from the "C" to "A" Zone;
- Hydraulic control and localized capture of "A" and "C" Zone groundwater through the operation of the 50/100-Foot Channel; and
- The overall low-permeability of "C" Zone sediments.

Based on this evidence, the Water Board concludes that the proposed project would not have a significant effect on public health or the environment.

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**Comment 2b:** *The concern is relative to the proposal that Castro Cove "Sediments added into the No. 1 Ox Pond, Passes 2 through 5 would be solidified and stabilized in-place", which is briefly and inadequately described in the Draft Initial Study, Section 3.6, page 16.*

**Response:** CEQA requires that a project description provide enough detail to identify and evaluate the potential impacts associated with the proposed project and to determine whether they have a potentially significant effect on the environment. The Initial Study satisfies this criterion.

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**Comment 2c:** *The Draft Initial Study and Negative Declaration report has not identified the potential technical problems that most likely will occur as a result of this process.*

**Response:** See Responses to Comments 2e through 2h.

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**Comment 2d:** *The No. 1 Ox Pond bottom layer of material is highly organic and heavily contaminated with chlorinated organics such as PAHs and heavy metals.*

**Response:** While PAHs are organic, neither PAHs nor heavy metals contain chlorine and are not categorized as chlorinated organics. Chlorinated organics have not been detected in samples collected from material in the No. 1 Oxidation Pond.

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**Comment 2e:** *The process of drilling into this highly variable material, which may in some cases exhibit fluid-like properties, will no doubt release contaminants to the aquatic environment during the process of solidification. The continued process to solidify the bottom will by its nature also force contaminants, from their existing state*

*(that of being bound with the organic matter of the bottom), into the aquatic environment.*

**Response:** The stabilization process would release contaminants to the aquatic environment. The No. 1 Oxidation Pond is hydraulically isolated from the aquatic environment of the Bay, and as described in Response to Comment 2a, transport of the COPCs would not occur. The hydraulic isolation of the No. 1 Oxidation Pond would not be breached or diminished in effectiveness by the stabilization process or by the final cap of stabilized material.

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**Comment 2f:** *What is the planned bore hole spacing?*

**Response:** The commenter incorrectly characterizes the stabilization process because it would not involve drilling bore holes at regular intervals. Stabilization, as described in the Project Description, would be performed by excavators or specialty equipment equipped with reagent injection holes. The specialized equipment would thoroughly mix the sediment slurry, oily sediments, and soil with stabilization materials to form a relatively homogenous 6 to 7 foot layer of stabilized material, which would provide a geotechnical base to support a vegetative cap. The excavations would be spaced closely enough to allow thorough mixing of the oily soil, non-hazardous refinery soils and stabilizing material.

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**Comment 2g:** *How is the operator going to control preferential flow path of grout material?*

**Response:** Stabilizing material as described in Response to Comment 2f would not create paths of preferential flow of the injected materials.

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**Comment 2h:** *Is this proven technology?*

**Response:** Soft sediment/soil stabilization for geotechnical purposes is performed widely in environmental construction projects across the U.S. and world. As noted, the stabilization is for geotechnical purposes and is not intended to treat the oily materials.

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**Comment 2i:** *Will this procedure hold for the long term (long term performance)?*

**Response:** See Response to Comment 2k.

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**Comment 2j:** *Overall, although S/S treatment of solid wastes has been widely applied, largely because it is initially cheaper than removal and adequate treatment of the wastes, it is not a proven technology that has been successfully demonstrated on similar wastes to the Castro Cove/No. 1 Ox Pond sediments.*

**Response:** See Response to Comment 2k. Economic considerations are not a CEQA issue.

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**Comment 2k:** *Erroneously assuming that prior use of S/S treatment at other sites is equivalent to a demonstration that it is a proven technology. As discussed by Lee (Lee, G. F. (2006a). Comments on "Remediation of Sydney Tar Ponds and Coke Ovens Sites Environmental Impact Statement, Sydney, Nova Scotia,"), the S/S treatment approach has not been adequately and reliably evaluated with respect to prevention of release of pollutants over the time that the pollutants in the S/S-treated soils will be a threat. It has been Lee's experience in reviewing Superfund site allowed approaches for remediation that the approaches adopted often do not adequately and reliably consider the long-term effectiveness in preventing future environmental pollution.*

**Response:** It is inappropriate to rely solely on the success (or failure) of technologies at other sites, and thus the Water Board has considered site-specific conditions in its evaluation of the proposed action. At the No. 1 Oxidation Pond, the Water Board expects that the proposed technology would perform as intended to provide long-term geotechnical stability to the materials in the pond. The stabilization process is not being conducted for purposes of containing or treating the oily materials in the pond nor is the stabilization process necessary to contain or to treat them. The materials in the pond would continue to be contained as they are now by the underlying Bay Mud, Refinery groundwater protection system (GPS) and upward hydraulic gradient. An interim corrective action was approved for the No. 1 Oxidation Pond by the Water Board in 2004. The stabilized material would be an enhancement to this interim corrective action. Given these site-specific conditions and the systems that are in place, and would remain in place, the Water Board concludes that placement of sediments in the No. 1 Oxidation Pond would not have significant adverse effects on the environment.

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**Comment 2l:** *Drs. Lee and Jones-Lee concluded, based on their experience and the literature, that solidification/stabilization, capping and flow diversion approach was not a reliable approach for immobilization/ containment of the pollutants in the Tar Ponds sediments.*

**Response:** The cited study evaluates the effectiveness of solidification/stabilization to treat Tar Pond materials, which is not the purpose of the stabilization activity for this project. Please refer to Response to Comment 2k.

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**Comment 2m:** *We are concerned that this is not a "walk-away" approach.*

**Response:** Please refer to Response to Comment 2k.

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**Comment 2n:** *Considerable intervention would be needed to adequately monitor and maintain the S/S-treated sediments and the flow diversion structures that Chevron proposed be used to keep surface water and groundwater from entering the S/S-treated sediments and from leaving the treated sediments to cause further pollution of the estuary.*

**Response:** Because the No. 1 Oxidation Pond is hydraulically isolated from the aquatic environment of the Bay, as described in Response to Comment 2a, transport of the COPCs to the estuary would not occur. Therefore, the Water Board concludes that the proposed action would not cause further pollution of the estuary. The estuary would, in fact, benefit from the removal of contaminated sediments from Castro Cove.

No flow diversion structures are proposed or needed to keep surface water or groundwater from entering the solidified sediments.

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**Comment 2o:** *We are afraid that we will inherit the responsibility for post remediation of the Castro Cove sediments. We could conclude that the S/S treatment of these sediments, and the associated capping and flow diversions, is not a reliable approach.*

**Response:** See Responses to Comments 2e, 2f, 2k and 2n.

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**Comment 2p:** *From Conner, J. (1990). (Chemical Fixation and Solidification of Hazardous Wastes, VanNostrand Reinhold, NY, NY, 692pp.) To date, there has been little or no verification of these tests [leach test results] to ensure that they accurately predict behavior of the treated material in the field setting.*

**Response:** The cited study is not relevant to this project because the stabilization is intended for geotechnical purposes and not intended to treat the materials in the pond. Please refer to Responses to Comments 2j and 2k.

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**Comment 2q:** *Even though S/S has been used for over 30 years there is no direct evidence of long-term material durability in the field. The durability of a S/S waste is dependent on how well it endures long term exposure to environmental stresses. A number of physical and chemical tests have been applied to S/S wastes to determine the durability of the material. Generally, these tests are short term tests and do not give a full correlation to field performance.*

**Response:** Please refer to Responses to Comments 2j, 2k and 2p.

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**Comment 2r:** *Further, Means et al. (1996) stated: The long-term performance of treated waste is not clearly understood, and no definitive test procedures exist to measure or assess this property. The Toxicity Characteristic Leaching Procedure (TCLP) is not an adequate measure of long-term leaching. Monitoring data from field disposal sites are needed to detect the premature deterioration of solidification or stabilization of previously processed wastes. Because of the uncertainties surrounding long-term performance, wastes previously treated using S/S and disposed of may have to be retrieved and retreated in the future.*

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**Response:** The cited study is not relevant to this project because the stabilization is intended for geotechnical purposes and not intended to treat the materials in the pond. Please refer to Responses to Comments 2j and 2k.

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**Comment 2s:** *In addition, Wiles and Barth (1992) of the US EPA stated: However, results of several studies, as well as data from remediation of several Superfund sites, have raised concerns about whether S/S is a valid technology for treating organic-bearing wastes.*

**Response:** The cited study is not relevant to this project because the stabilization is intended for geotechnical purposes and not intended to treat the materials in the pond. Please refer to Responses to Comments 2j and 2k.

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**Comment 2t:** *Furthermore, studies also provide evidence that tests other than the regulatory extraction tests [for example, toxicity characteristic leaching procedure (TCLP)] will be required to evaluate the effectiveness of S/S, especially when applied to organic wastes.*

**Response:** The studies are not relevant to this project because the stabilization is intended for geotechnical purposes and not intended to treat the materials in the pond. Please refer to Responses to Comments 2j and 2k.

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**Comment 2u:** *These results suggested that any successful durability test or predictive model will have to account for significant chemical and structural changes over time that influence leaching rate.*

**Response:** Please refer to Responses to Comments 2j, 2k and 2p.

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**Comment 2v:** *The durability of S/S wastes remains unclear, in part [due] to the relative time that the technology has been used, and to the lack of information on the sites using it.*

**Response:** Please refer to Responses to Comments 2j and 2k.

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**Comment 2w:** *Evaluation of S/S process design, performance, and treatment efficiency should be based on a matrix of several testing protocols. No single test, such as TCLP, can provide all the information required to evaluate contaminant release potential, contaminant release rate, and physical durability. An appropriate test matrix to evaluate S/S processes should include tests that will address these factors.*

**Response:** Please refer to Responses to Comments 2j, 2k, and 2p.

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**Comment 2x:** *Barth (pers. comm., 2006) indicated that the situation today is no different than it was in 1992 when he and Wiles developed their paper on this issue. There is still a lack of reliable information on the long-term effectiveness of S/S treatment of wastes that are high in organic content.*

**Response:** The citation is not relevant to this project because the stabilization is intended for geotechnical purposes and not intended to treat the materials in the pond. Please refer to Responses to Comments 2j and 2k.

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**Comment 2y:** *Thornburg et al. (2006), in a recent study of the "Effectiveness of in situ Cement Stabilization for Remediation of Sediment Containing Coal Tar Derived Hydrocarbons," found that S/S treatment of these organic sediments was not effective in preventing release of pollutants from them.*

**Response:** The cited study is not relevant to this project because the stabilization is intended for geotechnical purposes and not intended to treat the materials in the pond. Please refer to Responses to Comments 2j and 2k.

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**Comment 2z:** *The STPA literature review on the effectiveness of S/S treatment for contaminated soils and sediments failed to reference the work of others, such as cited above and in Lee (2006a), on the potential problems with S/S treatment being an effective method of long-term prevention of release of pollutants from the treated sediments/soils. The Agency also failed to mention readily available references in the literature to the inappropriateness of using the TCLP for evaluating effectiveness of S/S treatment.*

**Response:** The study is not relevant to this project because the stabilization is intended for geotechnical purposes and not intended to treat the materials in the pond. Please refer to Responses to Comments 2j and 2k.

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**Comment 2aa:** *How will Chevron ensure that the entire area is solidified?*

**Response:** Chevron is stabilizing the material for geotechnical purposes and is not solidifying it. Please see Response to Comment 2f. The procedure described there would ensure that stabilization would occur over the entire contiguous area of the No. 1 Oxidation Pond, producing a homogeneous stabilized layer 6 to 7 feet thick.

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**Comment 2bb:** *How is the shoreline interface going to be handled?*

**Response:** The No. 1 Oxidation Pond does not interface with the Castro Cove shoreline. Only approximately 350 feet of Pass 2 of the No. 1 Oxidation Pond is adjacent to the shoreline. Passes 2 through 5 of the No. 1 Oxidation Pond are hydraulically confined by the GPS consisting of hydraulic barrier walls and controls as described in Response to Comment 2a.

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**Comment 2cc:** *Have there been leachability tests carried out on the final product to determine whether the contaminants would get into the receiving environment (ground water or surface water)?*

**Response:** Leachability tests are unnecessary because as noted in Response to Comment 2a the oily materials in the No. 1 Oxidation Pond are hydraulically isolated, which prevents the off-site migration of chemicals via groundwater. Surface water at the site would continue to be collected and treated as it is now by the Chevron Refinery's effluent system.

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**Comment 2dd:** *The Negative Declaration should explain and detail information on the leacheability of the contaminants from this grout mixture over time.*

**Response:** Please refer to Response to Comment 2cc.

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**Comment 2ee:** *Dewatered PAH materials will be conditioned with inert materials. "The blend material will be flyash, lime or quicklime"*

**Response:** Comment noted. Castro Cove sediments, non-hazardous Refinery soils and oily materials in the No. 1 Oxidation Pond would be mixed with cement, lime, fly ash, bottom ash, or cement kiln dust.

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**Comment 2ff:** *Declaring flyash an inert material is hardly a best management practice.*

**Response:** Comment noted. The Initial Study does not describe fly ash as an inert material.

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**Comment 2gg:** *Provide scientific justification that flyash is an inert material in light of the fact that it is toxic waste.*

**Response:** The comment is incorrect in suggesting that all flyash is "toxic waste." Flyash, if used, would be analyzed prior to placement in the No. 1 Oxidation Pond to ensure that it is not toxic waste. No toxic waste would be used as a stabilizing material in the No. 1 Oxidation Pond.

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**Comment 2hh:** *Attention should also be given to all applicable policies, guidelines, codes, standards, and best management practices that would contribute to avoidance or reduction of adverse impacts if followed.*

**Response:** The Water Board has followed all applicable policies, guidelines, regulations and laws in its evaluation of the proposed project. Mitigation measures would be included in the project that either avoid or reduce potentially significant impacts to levels that are less than significant.

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**Comment 2ii:** *Provide details and cost of the onsite conditioning area to control odors/vapors.*

**Response:** Because sediments would be mixed in situ, odor generation is expected to be minimal as discussed in the Initial Study. In addition, the site is located over one mile from the nearest sensitive receptor and any odors produced would



not significantly affect these potential receptors. The cost of odor/vapor control is not a CEQA issue.

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**Comment 2jj:** *Spillage, run off/drainage, additives and residuals.*

**Response:** The commenter does not state which particular issue(s) she believes are associated with spillage, run off/drainage, additives and residuals. Run off, drainage, spillage, additives (i.e., stabilizing materials) and residuals (i.e., unstabilized materials) are discussed in the Initial Study.

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**Comment 2kk:** *Has Draft Initial Study and Negative Declaration report included risk from heavy metals in these conditioning materials. Please provide data.*

**Response:** Conditioning (stabilizing) materials would be analyzed prior to placement in the No. 1 Oxidation Pond to ensure that they are not toxic. No toxic material would be used as a stabilizing material in the No. 1 Oxidation Pond.

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**Comment 2ll:** *Long term monitoring of S/S waste are not included in the Negative Declaration.*

**Response:** The monitoring program for the No. 1 Oxidation Pond is already established and is part of the monitoring program for the GPS approved by the Water Board under Order No. 00-043. It is not necessary to establish a new monitoring program as part of this project.

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**Comment 2mm:** *Both cost estimates and risk analysis of the long term monitoring plan is meaningless without a fully developed plan.*

**Response:** Costs are not a CEQA issue. See also Response to Comment 2ll.

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**Comment 2nn:** *Please provide the plan and cost and risk analysis water and air emissions.*

**Response:** Costs are not a CEQA issue. It is not clear what "risk analysis water and air emissions" the commenter is requesting. See Response to Comment 2ll for groundwater monitoring. Section 6.3 of the Initial Study describes air emission design measures that would be included in the project.

### 3. Comment letter received from Henry Clark, West County Toxics Coalition, on October 25, 2006.

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**Comment 3a:** *As a resident of Richmond and Director of an Environmental Justice Organization, I am concerned that the storage of mercury in the oxidation ponds will create a permanent Hazardous Waste Storage "facility" that will not be protective of the environment and bay waters.*

**Response:** The materials in the No. 1 Oxidation Pond and the sediments from Castro Cove have been carefully characterized with regards to mercury and other constituents and are not regulated as hazardous wastes by State or federal criteria. The proposed action would not create a hazardous waste storage facility.

See also Response to Comment 2a, with regards to protection of the environment and bay waters.

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**Comment 3b:** *(1) Recommendation: The mercury and (PAHs) polyaromatic hydrocarbons should be trucked off to a legal hazardous Waste Disposal Site.*

**Response:** The commenter suggests an alternative method for disposing of the Castro Cove sediments. See Responses to Comments 3a and 1d with regards to hazardous waste disposal and trucking of sediments to an off-site facility.

**4. Comment letter received from Joseph Robinson, City of Richmond Resident, on October 25, 2006.**

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**Comment 4a:** *1) Castro Cove is an embayment of San Pablo Bay, and a tidally-influenced portion of San Francisco Bay. As such, it is considered a Waters of the United States, under the jurisdiction of the US Army Corps of Engineers, and is also administered by US Fish and Wildlife and other federal agencies having statutory authority. Typically, when a federal permit or other action would be required, compliance under the National Environmental Policy Act (NEPA) would be necessary. The NEPA equivalent of the draft ND would be a draft Environmental Assessment and Finding of No Significant Impact. Since Castro Cove is a resource with federal jurisdiction, could you please explain why NEPA documentation was not prepared?*

**Response:** An application has already been submitted by Chevron to the USACE for a discretionary Rivers and Harbors Act Section 10/Clean Water Act Section 404 permit. The USACE will comply with requirements of NEPA and will prepare environmental documentation as required.

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**Comment 4b:** *If a federal agency such as US Environmental Protection Agency (USEPA) delegated its authority or otherwise authorized a State regulatory agency under the California Environmental Quality Act (CEQA) to act on its behalf, please explain.*

**Response:** CEQA is not a federally delegated statute. US EPA received notice of the availability of the mitigated Negative Declaration.

Please see Response to Comment 4a.

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**Comment 4c:** *2) The ND appears to "piecemeal" or otherwise fragment the environmental analysis for the proposed work.*

**Response:** "Piecemealing" occurs when a larger project is split into two or more separate projects for the purpose of reducing environmental impacts. The proposed project is not part of a larger project. The commenter does not state what other project the proposed project is allegedly piecemealed from.

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**Comment 4d:** *The document does not appear to address all the potential effects or impacts since it does not characterize the existing condition and nature of the No. 1 Oxidation Pond ("Ox Pond") where the dredged material would be placed.*

**Response:** Sections 2 and 3 of Initial Study do include characterization of the No.1 Oxidation Pond. Additional characteristics, relevant to specific topic areas of the CEQA Initial Study Checklist, are provided in Section 6.

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**Comment 4e:** *A reader assumes that the oily material in the Ox Pond is hazardous material, and that by depositing 80,000 cubic yards of the dredged material from Castro Cove, there will be an additive and cumulative effect and therefore a potentially significant impact.*

**Response:** The Initial Study on page 9 states that "Chevron would cap and close the No. 1 Ox Pond as part of the project." Since stabilization and capping of the No. 1 Oxidation Pond is part of the proposed project, the Initial Study considers the impacts of this action as part of the project itself, not as a cumulative or additive effect. Please see also Responses to Comments 2a, 4f, and 4r.

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**Comment 4f:** *Please evaluate how the proposed activity would be protective of human health and the biota, especially in terms of groundwater contamination or recontamination of the tidally-influenced zone.*

**Response:** These potential impacts are evaluated in the Initial Study. With respect to biological resources, the Initial Study on page 46 determines that because "the project would remove contaminants from Castro Cove and cap the oily sediments in the No. 1 Ox Pond it is expected to have an overall beneficial impact to biological resources." With respect to hazardous materials impacts, the Initial Study on page 73 determines that the "cap of clean soil and stabilized material would prevent human or animal contact with the underlying oily sediments. The cap of stabilized material, underlying layer of Bay Mud, upward hydraulic gradient and Refinery's groundwater protection system would prevent the movement of the oily sediments in the environment. Thus the potential impact would be less than significant." Please see also Response to Comment 2a.

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**Comment 4g:** *If the project is looked at in all its various parts, I believe it merits an Environmental Impact Report (EIR) as opposed to the ND.*

**Response:** The Water Board has determined that this project does not meet the criteria requiring an EIR and that a Negative Declaration is appropriate. Please see Responses to Comments 1b, 1e and 2hh.

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**Comment 4h:** *Since the ND is a lower level document than an EIR the scoping process did not include public participation. Scoping is the process of determining the coverage, focus, and content of an EIR as proscribed in CEQA, and helps to identify the range of actions, alternatives, environmental effects, and mitigation measures to be analyzed in depth. The scoping process also brings together and resolves the concerns of all interested parties: proponents, opponents, and interested governmental agencies. Compared to an ND, an EIR receives a more robust review by regulatory agencies and other bodies involved in the public trust.*

**Response:** Comment noted. As the commenter indicates, scoping is not required for a Negative Declaration. Please see Response to Comment 4g.

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**Comment 4i:** *3) It is difficult for the reader to determine if the project proponent intends to rely on this ND as environmental clearance for future work at the site of the Ox Pond. Please clarify.*

**Response:** The proposed project includes stabilization and capping of the No. 1 Oxidation Pond. While the Initial Study acknowledges that the No. 1 Oxidation Pond Site might be used in the future for typical refinery uses, no specific project for the site is known or contemplated at the present time. If any future use is proposed that requires discretionary approval subject to CEQA, it may require further CEQA analysis.

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**Comment 4j:** *4) What is the status of the waste discharge monitoring system and related groundwater corrective action measures?*

**Response:** The GPS as described in the Initial Study was installed as the corrective action for groundwater. The groundwater monitoring system is in place and operating as designed. The operation of the system is subject to the requirements of Board Order No. 00-043.

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**Comment 4k:** *Please provide copies of the 2-year monitoring report (required pursuant to Order 00-043 Waste Discharge Requirements, 6/21/2000) for Castro Sector and North Yard Sector (see Table 2 of Order 00-043.) Since this information is needed by the reader to evaluate potential cumulative impacts, it further exemplifies piecemealing of the study.*

**Response:** Copies of the semi-annual groundwater monitoring reports, which include both the Castro Sector and North Yard Sector, are available for public review at the Water Board offices in Oakland, California. The commenter appears to confuse the

CEQA concepts of piecemealing and cumulative impacts. Please see Response to Comment 4c for a discussion of piecemealing and 4e for cumulative impacts.

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**Comment 4l:** *5) There is no study of the long term storage of hazardous material in the Ox Ponds.*

**Response:** The Initial Study evaluated the potential impacts associated with the long-term presence of the materials that will be stabilized and capped in the No. 1 Oxidation Pond. Please see Responses to Comments 1g, 2a and 4f.

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**Comment 4m:** *6) In Section 6.8, Water Quality / Hydrology, the report states that the levee has a history of subsidence but does not qualify the nature, cause, duration, or impacts of this effect. Since the levee is a key structure in the proposed containment system, please explain this in greater detail. Also, since there is a history of subsidence, there would also be a history of repair and maintenance actions. Please elaborate on that as well, and compare and contrast those actions with the proposed mitigation entailing the use of geotextiles to stabilize the levee.*

**Response:** The levee that has a history of subsidence is described on page 10 of the Project Description (rather than in Section 6.8 as stated by the commenter). This levee is located on the north side of the Refinery's stormwater collection pond, which is described in the text and identified as the North Yard Impound Basin in Figure 3.0-1. This levee is outside of the Refinery's groundwater protection system (GPS) and is not a key component of any "proposed containment system." As described in the Initial Study on page 10, the geotextile would be part of an engineered cap over the sediments and is not intended to stabilize the levee.

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**Comment 4n:** *Was the so-called GPS affected by this subsidence?*

**Response:** The GPS system is not located in this area and was not affected by the subsidence.

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**Comment 4o:** *7) What is the age and existing condition of the wall or dike described on page 7 and shown on Figure 1.1?*

**Response:** The dike was built in 1959 and is functioning well as a separation between the North Yard Impound Basin and Castro Cove. The North Yard Impound Basin is physically separated from Passes 2 through 5 of the No. 1 Oxidation Pond and Castro Cove. The proposed project would have no effect on the North Yard Impound Basin. Please see also Response to Comment 4n.

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**Comment 4p:** *8) Please show a cross-section graphic based on the text in Section 3.6 (page 16). The reader is left guessing as to the proposed dimensions of the horizons described and the appearance of the final proposed configuration.*

**Response:** Page 16 of the Initial Study provides dimensions of the materials in the subsurface of the No. 1 Oxidation Pond. The graphic request is not necessary in light of the information on dimensions that was provided in the Initial Study.

**Comment 4q:** *9) There appears to be a conflict in the CEQA Initial Study Checklist and Discussion. In Section 6.4, Biological Resources, the report states that the project could have a "less than substantial effect with mitigation" on biota and wetlands. While not clearly spelled out, the reader assumes that the potential effect on wildlife would be exposure to hazardous material. However, in Section 6.7, Hazards and Hazardous Materials, the checklist is completed to show that there is little or no effect from hazardous waste, despite the fact, as only one example, that the project will move up to 190 pounds of mercury. This duality does not appear to be plausible, and requires explanation.*

**Response:** The commenter's assumption that the biological resources mitigation measures are related to exposure of wildlife to hazardous materials is not correct. As indicated in Section 6.4 of the Initial Study, mitigation is needed for dredging and construction activity impacts to wildlife and wetlands.

**Comment 4r:** *The potentially significant impact to wildlife is but one scenario of impacts from hazardous waste; where are the others discussed, and is the project designed to be protective of human health? Unless those potential impacts are discussed in the ND, this cannot be evaluated.*

**Response:** The materials in the No. 1 Oxidation Pond and the sediments from Castro Cove have been carefully characterized and are not regulated as hazardous wastes by State or federal criteria. The project is designed to be protective of both human health and wildlife. Please refer to Responses to Comments 2a and 4f.

**Comment 4s:** *9) How will the mercury be resolved or otherwise remediated?*

**Response:** Sediments containing mercury would be remediated by removal from the Cove and placement in the No. 1 Oxidation Pond, where they would be isolated from further contact with the aquatic environment, and from exposure to human and non-aquatic ecological receptors, as described in the Project Description of the Initial Study.

Please refer also to Response to Comment 2a.

**Comment 4t:** *10) Since the sources of the polycyclic aromatic hydrocarbons (PAHs) have not been identified, how can the public be assured that this or other unsourced constituents of concern would not reappear?*

**Response:** The Water Board believes that the source of the PAHs that will be remediated as described in the Initial Study has been adequately identified as being related to the discharge of untreated Chevron refinery process wastewater effluent and other refinery wastes directly into the Cove between 1902 and 1971. After

implementation of the Clean Water Act in 1972, all process water was biologically treated prior to being discharged in accordance with NPDES permit requirements. Discharge of treated effluent to Castro Cove ended in 1987, when all discharge water was rerouted to the Deep Water Outfall offshore of Point San Pablo. Refinery effluent is therefore no longer a potential source of PAHs or other contaminants to Castro Cove. Likewise, any petroleum-contaminated shallow groundwater originating from the refinery is also not a potential source of contamination to Castro Cove because it is captured by refinery-wide GPS and is routed to the effluent treatment system before it can migrate outside the refinery perimeter. The commenter does not identify any "unsourced" constituents other than PAHs or present evidence indicating a risk of future contamination. The possibility of future contamination from unknown sources is wholly speculative and cannot be evaluated at this time. In the event that future contamination does occur, it would be addressed by future regulatory action.

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**Comment 4u:** *11) In the Corrective Action Plan (URS, 2002) on page 35, Section 6.1, that report states "from a regulatory perspective, use of the ponds as a disposal location could pose challenges." What are those challenges, and how were they addressed in the ND and the proposed mitigation strategy?*

**Response:** The commenter provides a partial quote from a section of the 2002 CAP for Castro Cove. The complete sentence from which the phrase was extracted is, "While it may be possible to dispose of the sediments in the ChevChem Ponds from an engineering perspective, from a regulatory perspective, use of the Ponds as a disposal location could pose challenges." The quote does not refer to the No. 1 Oxidation Pond, but to other ponds located on Chevron property. The discussion of regulatory issues with regards to the ChevChem ponds is not relevant. The No. 1 Oxidation Pond does not present the same regulatory challenges.

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**Comment 4v:** *There was not enough time to review the ND, and compare it with other information.*

**Response:** Please refer to Response to Comment 1b.

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**Comment 4w:** *There appears to be limited public involvement since interested parties found out by word of mouth. Public outreach did not appear adequate.*

**Response:** Please refer to Response to Comment 1b.

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**Comment 4x:** *Elected officials who would otherwise be active in environmental matters were unable to participate due to the upcoming election.*

**Response:** This is not a CEQA issue. Please refer to Response to Comment 1b. However, it is worth noting that Richmond City Councilmember Gayle McLaughlin, who is

running for mayor of Richmond, did submit comments, and Councilmember Tom Butt attended the October 4, 2006, community meeting.

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**Comment 4y:** *There did not appear to be coordination in conducting public outreach with sister State agencies such as Department of Toxic Substance Control.*

**Response:** The Initial Study/Mitigated Negative Declaration was distributed to other state agencies, including the DTSC, by the State Clearinghouse as required by CEQA.

**5. Comment letter received from Mary Menconi, State Lands Commission, on October 26, 2006.**

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**Comment 5a:** *As you are aware, the proposed remediation project will involve State-owned lands under the jurisdiction of the California State Lands Commission (CSLC). The CSLC is entrusted to oversee the Public Trust on sovereign public property right held by the State as its delegated trustee for the benefit of all the people. This right limits the uses of these lands to waterborne commerce, navigation, fisheries, open space, recreation, or other recognized Public Trust Purposes. A lease from the Commission is required for any portion of a project extending onto State-owned lands, which are under its exclusive jurisdiction. CSLC received an application to lease such lands for the proposed project on September 26, 2006 from Chevron USA.*

**Response:** Comment noted.

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**Comment 5b:** *Page 7, Summary of the Proposed Project Activities and Page 13, Section 3.3. The Summary should include the activity of discharging the decant water to San Pablo Bay, and this activity should also be described in more detail in Section 3.3 as it is an important aspect of the project. In addition, the last sentence of Section 3.3 states that the water would be "treated", if needed, prior to permitted discharge to San Pablo Bay. It is not clear if this treatment would be the flocculation and carbon filters, or some other treatment that is not described in this section. The treatment method should be clarified.*

**Response:** The discharge of decant water, including proposed treatment methods, is described on pages 13 and 77 (in the Hydrology and Water Quality section) of the Initial Study. Water would be treated by the addition of polymer flocculants and activated carbon, as needed. As noted in the Initial Study, the water would be sampled and analyzed prior to permitted discharge in accordance with effluent limitations set forth by a Water Quality Certification under Section 401 of the Clean Water Act and would comply with water quality standards for San Francisco Bay.

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**Comment 5c:** *Page 33, Setting in Biological Resources. The document should identify any eelgrass beds in the Shallow Subtidal areas, and if none exist it should so state.*

**Response:** There are no eelgrass beds in Castro Cove.

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**Comment 5d:** *Page 33, Discussion. The environmental data for endangered species should not have been limited to only the San Quentin Quad as 60-70% of that quad is open water (see next comment).*

**Response:** The San Quentin Quad provides adequate coverage of the project area. It covers the Richmond shoreline from a point northeast of Wildcat Marsh to the area south of the Richmond-San Rafael Bridge. This length of Bay shoreline includes the project area in Castro Cove.

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**Comment 5e:** *Page 41, Potential Impacts to Federal and State Listed Plant Species and Table 6.4-1 (page 49). This section should also include Soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*). This is a Federally-listed endangered/State Listed rare species and there is a known occurrence within two miles north of the project.*

**Response:** The plant has not been observed in the project area. *Cordylanthus mollis* ssp. *mollis* (soft bird's-beak) occurs in salt and brackish tidal marshes fringing San Pablo and Suisun Bays in the San Francisco Bay area of northern California. The plant is restricted to a narrow tidal band, typically in higher elevational zones within larger tidal marshes that have fully developed tidal channel networks. These plants usually do not occur in smaller fringe tidal marshes that are generally less than 100 meters (m) (300 feet (ft)) in width, or in non-tidal areas.

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**Comment 5f:** *Page 44, BIO-7. This mitigation measure should specify that preconstruction surveys for sensitive plant species will be conducted during the months of July through September, which is the appropriate season for the plants listed in the Proposed Draft MND.*

**Response:** The project area has been disturbed over time (much of it is fill or other recently deposited materials) and consists of small fringe habitats that are unlikely to support special status plants. General vegetation community surveys have been performed in the area, and to date, have not observed special status species. Since construction would begin in February 2007, a pre-construction survey would be performed during November 2006 to capture the end of growing season.

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**Comment 5g:** *Page 44, BIO-8. This mitigation measure should state that "Adaptive management measures **will include** elimination of non-native cordgrass clones", not ...**may include**..." The measure should specify how the project will ensure that non-native cordgrass or other invasive species do not invade the restored areas, and the control measures that will be used if they do invade the restored areas.*

**Response:** The Water Board will require the proponent to eliminate non-native cordgrass clones from the restoration area. Due to their invasive nature, the Water Board and project proponent cannot "ensure" non-native cordgrass and other invasives will not invade restored area. As part of adaptive management, the project proponent will inspect for invasives and, if they appear, will take appropriate measures to control them.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

**ORDER NO. R2-2006-0078**

**SITE CLEANUP REQUIREMENTS AND CLEAN WATER ACT SECTION 401 WATER  
QUALITY CERTIFICATION FOR:**

**CHEVRON PRODUCTS COMPANY**

**CASTRO COVE SEDIMENT REMEDIATION PROJECT**

**Offshore of:  
CHEVRON REFINERY  
RICHMOND, CA 94801  
CONTRA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Water Board), finds that:

**1. SITE DESCRIPTION**

Site Location/Ownership: The Castro Cove Site, also known as South Castro Cove and hereafter referred to as Castro Cove or the Cove, is located adjacent to the Chevron Refinery in Richmond. Castro Cove is a shallow, protected embayment of San Pablo Bay (Figure 1). The western boundary of the Cove consists of rubblemound seawalls and dikes containing a lagoon and the Chevron yacht harbor. A dike built to contain the refinery's former No. 1 Oxidation Pond forms the southeastern boundary. Salt marshes and rubblemound seawalls adjacent to the West Contra Costa Sanitary Landfill form the eastern shoreline of the Cove (Figure 2). Chevron Products Company leases use of Castro Cove from the State Lands Commission.

Site History: Maps from the mid-1800s show Castro Cove as an extended creek and estuary system. At that time, the Castro Creek channel turned southwest near the location of the current salt marsh and followed the Cove shoreline westward. The mouth of the channel was near the current Chevron yacht harbor.

Historically, a number of industrial, commercial, and municipal operations have discharged wastewater and stormwater runoff into the Cove and the creeks running into the Cove. These activities (including dredging, urban runoff, sanitary wastewater, and other discharges) have impacted the Cove environment. Ongoing nonpoint sources (e.g., urban runoff) into Castro Cove are likely to continue into the future.

In 1902, Standard Oil Company, a predecessor of Chevron Products Company began refinery operations adjacent to the Cove.

Standard Oil Company discharged process water into the south side of Castro Cove at two locations. Discharge from these locations ceased in 1971 when all wastewater was rerouted to a treatment system that discharged into the Cove via an impoundment known as the 250-Foot Channel. After implementation of the Clean Water Act in 1972, all process water was biologically treated prior to being discharged. Discharge of treated effluent to Castro Cove ended in 1987, when all discharge water was rerouted to the Deep Water Outfall offshore of Point San Pablo, outside Castro Cove.

Adjacent Properties: Castro Cove is bordered to the north by San Pablo Bay, to the east by the West Contra Costa County Sanitary Landfill and Wildcat Creek Salt Marsh, and to the south and west by the Chevron Products Company refinery.

## **2. PURPOSE OF ORDER**

This Order serves as both Site Cleanup Requirements and Water Quality Certification under Section 401 of the Federal Clean Water Act for remediation of sediment contamination in a portion of Castro Cove that poses unacceptable risk to ecological receptors (sediment-dwelling benthic invertebrates).

## **3. REGIONAL AND SITE HYDROGEOLOGY**

Castro Cove sediments consist primarily of silts and clays with some fine sand. Sandy material represents a higher percentage of sediments in Castro Creek channels than it does in the Cove. The processes influencing Cove hydrodynamics (i.e., flushing and deposition) potentially minimize adverse impacts from chemical exposure because of natural attenuation (i.e., biodegradation, dispersion, and dilution) and reduced bioavailability as cleaner sediments are deposited over chemically impacted areas.

Water movement in the Cove is dominated by tidal action. Tides in San Pablo Bay are semi-diurnal mixed tides (two high and two low tides each day with a significant difference in tidal range between the two tides). The National Oceanic and Atmospheric Administration (NOAA) tide station nearest to the site is at Point Orient, located 0.75 miles to the west of Castro Cove. Average tides at Point Orient have a mean higher high water (MHHW) level of 5.8 feet, and a mean range of 4.1 feet (NOAA datum is mean lower low water [MLLW], which is 0.0 feet by definition). Most of the Cove is exposed mudflat at MLLW. During the higher spring tides, which occur every two weeks, the Cove flushes completely on the outgoing ebb tides. During low neap tides, less ebb tide flushing occurs.

The flow in San Pablo Bay, and hence Castro Cove, is seasonally influenced by winter runoff from the Napa and Sacramento/San Joaquin Rivers. Winter runoff brings in large quantities of sediment, some of which is initially deposited in San Pablo Bay during this period. During spring tides that occur after winter runoff, flushing of the Cove may resuspend some surficial sediments. Over the rest of the year, tidal and wave action separate the sediments, with heavier, coarser material remaining in higher energy areas of the Bay, and finer material deposited in more sheltered areas such as coves and marshes.

Radioisotope dating and bathymetric surveys indicate most of Castro Cove is accreting sediment at a rate of 0.4 to 0.5 inches per year. In historically dredged areas, higher accretion rates of 3 to 4 inches per year have been measured.

#### **4. NAMED DISCHARGER**

Polycyclic aromatic hydrocarbons (PAHs) have been measured at elevated levels in sediment in Castro Cove. Chevron Products Company owns and operates a petroleum refining operation adjacent to the Cove and historically discharged to the Cove. Chevron Products Company is considered to be the sole discharger for purposes of this Order.

#### **5. REGULATORY BACKGROUND**

In June 1998, the Water Board requested Chevron Products Company to prepare a Sediment Characterization Workplan for Castro Cove. The request was based on the identification of between 10 and 100 acres of Castro Cove as a candidate toxic hot spot under the Bay Protection and Toxic Cleanup Program. In response to the request, a combined sediment sampling and tiered ecological risk assessment methodology was developed. In 2002, Castro Cove was added to the state's CWA section 303(d) list of impaired waters, based on the presence of dieldrin, mercury, PAHs and selenium in sediment. The site was assigned a low priority for TMDL development.

A Tier I field investigation was performed in December 1998, and Tier II investigations, including sediment analysis, toxicity testing using amphipod bioassays, and radioisotope dating of sediments, were performed between September 1999 and June 2001. As discussed in Finding 6, an Area of Concern was delineated based on the PAH and mercury data, as well as benthic toxicity test results.

#### **6. AREA OF CONCERN (AOC)**

Castro Cove consists of three general types of habitats: salt marsh, open water, and exposed mudflat. Castro Creek enters the southeastern portion of Castro Cove, where a small salt marsh peninsula habitat separates the Cove from the Creek (Figure 2). The Creek Channel is 1 to 2 feet deeper than the surrounding mudflats and trends northward along the eastern side of the Cove. The channel drains during low tide and is largely mudflat habitat. The area east of the salt marsh is open-water habitat during high tide, and drains to become mudflats during low tide.

The Tier I Ecological Risk Assessment (ERA) investigation identified chemicals of potential concern (COPCs), exposure pathways, and quantified risks to habitats and species. This assessment indicated that two areas required further characterization: the Mudflat Area and the Creek Channel Area. In September 1999, an initial Tier II ERA investigation was performed to delineate the extent of contamination, evaluate the effects of residual petroleum in the bioavailable layer, and further evaluate sediment accretion rates via radioisotope dating. A supplemental Tier IIB investigation was performed in 2000 to address the potential for adverse impacts resulting from exposure to chemicals in sediments in a third area, the Salt Marsh Area. The Mudflat Area and a few additional locations were further characterized in a Tier IIC investigation in June 2001 using benthic toxicity and analytical chemistry data.

Contaminants of Concern: Based on the results of the tiered ecological risk studies, total polycyclic aromatic hydrocarbons (total PAHs) and mercury have been identified as the primary chemicals of ecological concern. Although the State Water Resources Control Board cited elevated levels of dieldrin and selenium in sediment, in addition to PAHs and mercury, as the basis for including Castro Cove in the 2002 revisions to the 303(d) list for water bodies in the San Francisco Bay Region, the Tier I and Tier II investigations found dieldrin and selenium at concentrations below ecological screening benchmarks, and therefore, these chemicals were not retained as contaminants of concern.

Delineation of AOC: Interpolation of the PAH, mercury, and toxicity data from the tiered risk assessments was used to delineate an area of concern from the initial investigation area (Figure 3). Based on sediment accretion measurements, the sediments below the two-foot depth date from 1900 or earlier, predating industrial activity in the Cove. A 20-acre portion of the Mudflat Area was delineated where the upper 2 feet of sediments were most impacted by contamination from chemicals of potential concern. This area contains the data points at which amphipod bioassays showed toxicity, and PAH and mercury concentrations above screening benchmarks (Table 1).

**Table 1. Summary of Contaminant Concentrations in Castro Cove Sediment 1999-2002**

Contaminant	Unit	Maximum Sediment Concentration (surface to 2-foot depth)	Screening Ecological Benchmark	San Pablo Bay Ambient/Reference Sediment Concentration <sup>1</sup>	Estimated Concentration in Exposed Surface Sediment After Cleanup <sup>2</sup>
Total PAHs	mg/kg dry wt	507	4.90 <sup>3</sup>	3.99	1.22
Mercury	mg/kg dry wt	13	0.71 <sup>4</sup>	0.34	0.41

- 1 95% Upper Confidence Limit (UCL) on the mean of San Francisco Estuary Regional Monitoring Program sediment chemistry data collected from San Pablo Bay sampling station BD22 between 1993 and 2001.
- 2 95% UCL on the mean of chemistry data from sediments at a depth of 2.5 to 3 feet below the AOC which will become surface sediments after corrective action.
- 3 Calculated from the Threshold Effects Concentration (TEC) of 290 mg total PAH/kg organic carbon in sediment, using a total organic carbon concentration (TOC) for Castro Cove sediments of 1.7% (mean TOC for 70 sediment samples) from: Swartz, R.C., 1999. Consensus Sediment Quality Guidelines for Polycyclic Aromatic Hydrocarbon Mixtures. *Environ. Toxicol. And Chem.* 18:780-787.
- 4 NOAA Effects Range Median (ERM) from: Long, E.R., D.D. MacDonald, S.L. Smith, and F.D. Calder. 1995. Incidence of adverse biological effects within ranges of chemical concentrations in marine and estuarine sediments. *Env. Manage.* 19(1):81-97

## 7. CORRECTIVE ACTION PLAN

A Corrective Action Plan (CAP) was developed by Chevron Products Company for the AOC and submitted to the Water Board in June 2002. An addendum to the CAP was submitted on August 2, 2006. The CAP includes an initial screening of technologies to identify alternatives that could effectively achieve the remediation goal of restoring biological viability to the site. The technologies considered included four general categories: natural accretion of sediments over AOC (no action), in-situ treatment, in-situ containment, and removal and disposal of impacted sediments.

Eight corrective action alternatives were evaluated in terms of effectiveness, implementability, cost, and compatibility with other local Chevron Products Company remediation projects. Based on the alternatives evaluation, the following proposed action was recommended in the CAP:

- Removal of contaminated Castro Cove sediments in the AOC to a depth of two feet.
- Disposal of the sediments in a suitably contained manner either at a local Chevron Products Company facility or at an approved landfill.

- Natural accretion in the excavation with a protective sand layer to resist shoreline erosion.

Sediment Removal from AOC: Sediment removal would be achieved by hydraulically dredging the area while it is isolated from the rest of San Pablo Bay within a sealed sheetpile enclosure that would be in place for approximately nine months. To ensure that the upper 2-ft layer of sediments is removed and that the biological viability of the Castro Cove is restored, the project would hydraulically dredge the uppermost 2.5 feet of sediments from the area.

In an approximately 1.5-acre area in the southwest corner of the AOC where contaminants are found slightly deeper than two feet, sediments would be excavated to a depth of three feet and the area would be capped. Excavation below three feet in this area is complicated by the fact that the area is adjacent to a levee-supported gravel road, which separates Castro Cove from the North Yard Impound Basin. This levee has a history of subsidence. Excavation deeper than three feet at the toe of the levee would create safety concerns due to the levee's instability. To safely complete the project and to ensure environmental protection in this area, excavated sediments in the 1.5-acre area would be replaced with an engineered cap consisting of a geotextile layer and three feet of clean Bay Mud/silt with a density similar to the removed sediments.

Exposed Sediment Sampling Study: During the preparation of the initial CAP in 2002, Chevron Products Company conducted a study to confirm that contaminant levels in sediments left exposed after cleanup would not pose unacceptable risk to ecological receptors. Sediment core samples were collected from 20 locations in the AOC (one per acre, equivalent to sampling on 200 foot centers) and from six locations just outside the AOC to fill data gaps at the boundary. All cores from the AOC were subsampled and analyzed for an expanded suite of contaminants (PAHs, TPH, pesticides, and metals) from 2.5- to 3.0-ft depths (the exposed depth allowing for a 6- to 12-inch over-dredge) and from 3.0-to 4.0-ft depths if the cores were near areas of elevated PAH and mercury concentrations identified in previous studies. The post-cleanup exposed sediment study results indicate that PAH and mercury concentrations in surface sediments exposed after cleanup will be equivalent to ambient concentrations in San Pablo Bay (representative of the least-impacted portions of the Bay) and less than ecological benchmarks (Table 1). Task 3 of this Order requires the submittal of a post-dredging confirmation monitoring plan to demonstrate that the cleanup reduced PAH and mercury concentrations in sediment to the levels indicated by the exposed sediment study.

Final Closure of Passes 2-5 of the No. 1 Oxidation Pond: The 2006 CAP Addendum identified a 66-acre portion (Passes 2 through 5) of the No. 1 Oxidation Pond located in the Chevron Richmond Refinery adjacent to Castro Cove as the preferred location for placement of Castro Cove sediments. The No. 1 Oxidation Pond is a former refinery effluent treatment unit that was taken out of service in 1990. In that same year, Pass 1, now known as the North Yard Impound Basin, was clean-closed (petroleum-contaminated soil was removed and relocated to Passes 2 through 5), and is currently used as a stormwater retention basin. Passes 2 through 5 are subject to Water Board Order No. 00-043 which requires development of a Corrective Action Plan (CAP) to address a 5.5-foot thick layer of soft, petroleum-contaminated soil overlying a 25-foot thick layer of low permeability Bay Mud. In 2004, the Water Board approved an interim



closure plan consisting of drainage improvements and mitigation of potential hazards for ecological receptors. At the time, staff recognized that additional corrective actions and/or final closure of the No 1 Oxidation Pond may be warranted in the future.

As part of the CAP, Chevron Products Company has proposed placing approximately 80,000 cubic yards (cy) of non-hazardous sediment dredged from Castro Cove in Passes 2 through 5 of the No. 1 Oxidation Pond. After the dredged sediment has sufficiently dried, up to 60,000 cy of stockpiled non-hazardous upland soil from refinery construction projects would be mixed with the Cove sediment and a structural stabilization material such as cement or fly ash. Bench-scale stabilization tests would be performed to determine the most effective stabilization material and application rate. This material mixture is intended to provide a structurally stable, protective cap over the remaining oily pond sediments. After settling and consolidation, the surface of the cap would be graded to promote drainage and prevent ponding, covered with a layer of non-hazardous soil acceptable for surface use pursuant to the refinery Soil Management Plan required by Order No. 00-043, and seeded with upland vegetation. Capping Passes 2 through 5 of the No. 1 Oxidation Pond in this manner would constitute the overall final closure of this former waste treatment unit.

This Order approves the CAP, subject to the Prohibitions, Tasks, and Provisions specified. Task 1 of this Order requires the submittal of a detailed final corrective action design plan for remediation of contaminated sediment in Castro Cove and final closure of Passes 2 through 5 of the No. 1 Oxidation Pond.

## **8. DECANT WATER MANAGEMENT**

As part of the CAP, sediment from Castro Cove would be hydraulically delivered (pumped) to the No. 1 Oxidation Pond via pipeline as a slurry. The slurry would be released from the pipe and flow slowly from one pass in the pond to another to facilitate settling of sediments. As the settling area fills with sediments and water, the water would be actively pumped (decanted) out of the settling area to maintain freeboard. Once the sediments have adequately settled out, the decant water would be tested and treated, as necessary to meet the effluent limits contained in Provision 2, prior to discharge to Castro Cove. Task 2 of this Order requires submittal of a decant water management plan that addresses treatment, discharge, and monitoring to demonstrate that this effluent does not adversely impact receiving water in Castro Cove.

## **9. AOC RESTORATION**

Implementation of the CAP, also referred to as the project, will temporarily impact approximately seven acres of federally protected wetlands and 28 acres of intertidal mudflat defined as jurisdictional by Section 404 of the Clean Water Act. These areas occur in Castro Cove; none are found within the No. 1 Oxidation Pond. Temporary impacts to the wetlands and mudflats in Castro Cove include temporary installation of the sheet pile enclosure and excavating contaminated bay sediment from the 20-acre site.

Natural Accretion in Mudflat Area: Removal of sediments from the AOC would create an artificial depression below the equilibrium level in the Cove, and an accretion rate of two to three inches per year is expected in the southern portion of the Cove. Complete fill of the restoration area by natural accretion is expected to take 10 to 15 years. The

benthic community is expected to begin to reestablish itself immediately after sediment removal. Shoreline erosion will be minimized by placing a 6-inch-thick sand layer over the exposed surface. Experience elsewhere in the Bay has shown that such sand mixes with finer material to form a protective crust.

Revegetation of Salt Marsh Area: The south and west banks of the Cove are partly vegetated and some plants have colonized the area that would be excavated, including approximately 1.5 acres of native cordgrass. It is estimated that an additional one acre of cordgrass and pickleweed could be affected by sheetpile installation and maintenance or other activities associated with the site clean up. Natural recruitment is the preferred route for reestablishing cordgrass in the project area because manual planting usually has a low survival rate. This area has shown rapid colonization by cordgrass in recent years, indicating that when appropriate physical conditions (i.e., substrate elevation and composition and wave energy) are present, natural recruitment is highly likely due to the availability of abundant seeds and propagules.

## **10. PROJECT BENEFITS**

The project would eliminate the potential risk that contaminants in the Cove, such as mercury and PAHs, pose to sediment-dwelling organisms. By removing between 140 and 190 pounds of mercury from Bay sediments, the project will support the Water Board's proposed San Francisco Bay Mercury Total Maximum Daily Load (TMDL). Mercury reductions will reduce the amount of mercury available to sediment-dwelling organisms and will benefit aquatic organisms that feed on them, as well as birds and mammals higher in the food web.

## **11. BASIN PLAN**

The Water Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on January 21, 2004. This updated and consolidated plan represents the Water Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 22, 2004, and October 4, 2004, respectively, and approved by the U.S. Environmental Protection Agency, Region IX on January 5, 2005. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater.

## **12. DESIGNATION OF BENEFICIAL USES**

The existing and/or potential beneficial uses of Castro Cove and San Pablo Bay as identified in the Basin Plan include:

- a. Water Contact Recreation
- b. Non-Contact Water Recreation
- c. Preservation of Rare and Endangered Species
- d. Estuarine Habitat
- e. Wildlife Habitat

- f. Industrial Service Supply
- g. Navigation
- h. Commercial and Sport Fishing
- i. Fish Migration
- j. Shellfish Harvesting
- k. Fish Spawning

**13. STATE BOARD RESOLUTION NO. 92-49**

State Water Resources Control Board Resolution No. 92-49, entitled "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304," acknowledges that attainment of background levels of water quality cannot reasonably be achieved in all cases. In approving any alternative cleanup levels less stringent than background, any such alternative cleanup level must be consistent with maximum benefit to the people of the State; not unreasonably affect present and anticipated beneficial use of such water; and not result in water quality less than that prescribed in the Water Quality Control Plan and Policies adopted by the State and Regional Water Board. This Order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

**14. STATE BOARD RESOLUTION NO. 68-16**

On October 28, 1968, the State Board adopted Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California." This policy applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality reasonable, if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. This Order and its requirements are consistent with Resolution No. 68-16.

- 15. WETLAND TRACKER SYSTEM:** It has been determined through regional, state, and national studies that tracking of mitigation/restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. In addition, to effectively carry out the State's No Net Loss Policy for wetlands, the State needs to closely track both wetland losses and mitigation/restoration project success. Therefore, the Water Board requires that the Chevron Products Company use a standard form to provide Project information related to impacts and mitigation/restoration measures. An electronic copy of the form and instructions can be downloaded at: <http://www.waterboards.ca.gov/sanfranciscobay/certs.htm>. Project information concerning impacts and mitigation/restoration will be made available at the web link: <http://www.wetlandtracker.org>.

- 16. COST RECOVERY:** Pursuant to California Water Code Section 13304, Chevron Products Company is hereby notified that the Water Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

17. **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) COMPLIANCE:** The Water Board, as lead agency for this project, has prepared a Mitigated Negative Declaration (MND), which has been circulated for public review in compliance with CEQA and applicable regulations. The Water Board has considered the MND, which reflects the independent judgment and analysis of the Water Board, and finds based on substantial evidence in the record that all environmental impacts have been identified and will be mitigated to a level of insignificance, pursuant to compliance with the Mitigation Monitoring and Reporting Program contained in the MND and the conditions of this Order. On November 13, 2006, the Water Board adopted the MND. The MND, all supporting documentation and record are available at the Water Board's office.
18. **NOTIFICATION AND PUBLIC PARTICIPATION:** The Water Board notified Chevron Products Company and interested agencies and persons of its intent under California Water Code Sections 13304 and 13263 to prescribe site cleanup requirements for the project and provided an opportunity for a public hearing and an opportunity to submit written comments.
19. **PUBLIC HEARING:** The Water Board, at a public meeting, heard and considered all evidence and comments pertaining to this discharge and the proposed corrective action.
20. **PETITION FOR REVIEW:** Any person affected by this action of the Water Board may petition the State Water Resources Control Board to review the action in accordance with Section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Water Resources Control Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. If you choose to petition the Order, be advised that you must comply with the Order while your appeal is being considered.

**IT IS HEREBY ORDERED**, pursuant to Sections 13304 and 13263 of the California Water Code, that Chevron Products Company (or its agents, successors, or assigns) shall cleanup and abate the effects of waste discharged as described in the above findings, as follows:

**B. PROHIBITIONS**

1. The discharge of wastes or hazardous substances in a manner that will significantly degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. The discharge of floating oil or other floating materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters, or otherwise adversely impact beneficial uses is prohibited.
3. The storage, handling, treatment or disposal of contaminated soil or sediments in a manner creating a nuisance, as defined in Section 13050(m) of the California Water Code, is prohibited.
4. The groundwater in the vicinity of the project shall not be degraded as a result of the placement of fill for the project.

## C. TASKS

Chevron Products Company shall comply with the following tasks.

### **Task 1: Submit Final Corrective Action Plan**

**Due Date:** At least 60 days prior to the start of mobilization for corrective action but no later than December 31, 2006

**Description:** A detailed plan and schedule of the proposed final corrective action shall be submitted for Executive Officer review and approval. At a minimum, the plan shall include:

- the final design of the temporary sheetpile enclosure;
- sheetpile installation and removal procedures;
- dredging, transport, and placement procedures to ensure that targeted sediment in the AOC is delivered to No. 1 Oxidation Pond Passes 2 through 5;
- capping and final closure design details for No. 1 Oxidation Pond Passes 2 through 5; and,
- design and installation details for the engineered cap proposed for the 1.5 acres of salt marsh in the southwest corner of the AOC that will be excavated to a depth of three feet.

This plan and schedule shall be consistent with the project description contained in the MND adopted by the Water Board in accordance with CEQA.

### **Task 2: Submit Decant Water Management Plan**

**Due Date:** At least 60 days prior to start-up of dredging

**Description:** A management plan that proposes decant water handling, treatment, and discharge procedures designed to meet the effluent limits contained in Provision 2 of this Order shall be submitted for review and approval by the Executive Officer. In addition, a self-monitoring program shall be proposed to demonstrate that this effluent does not adversely impact receiving water in Castro Cove.

### **Task 3: Submit Monitoring and Risk Management Plan**

**Due Date:** At least 60 days prior to completion of the corrective action

**Description:** A cleanup success monitoring plan shall be submitted for Executive Officer review and approval. The plan shall propose: 1) post-dredging confirmation monitoring to demonstrate that chemical contamination in sediments in the AOC has been reduced to levels that no longer pose unacceptable ecological risk; 2) a long-term sediment elevation monitoring program to ensure that the AOC is not subject to localized erosion and that natural accretion is restoring the Cove bottom to pre-dredging elevations; and, 3) a

contingency plan in case monitoring data indicate natural accretion is significantly less than the predicted rate indicated in the approved final Corrective Action Plan.

#### **Task 4: Submit Final Mitigation and Monitoring Plan**

**Due Date:** At least 60 days prior to completion of the corrective action

**Description:** A final Mitigation and Monitoring Plan, consistent with the measures for restoring salt marsh and intertidal mudflat areas proposed in the Mitigation Monitoring and Reporting Program of the MND, shall be submitted for Executive Officer review and approval. If the monitoring program indicates that establishment of the restoration habitat is not progressing in a manner or rate consistent with that of the proposed success criteria, the mitigation monitoring reports shall evaluate the probable cause(s) of any problems and propose appropriate corrective measures. Proposed changes in the Mitigation and Monitoring Plan success criteria or timelines must be approved in writing in advance by the Executive Officer.

#### **Task 5: Submit Corrective Action Completion Report**

**Due Date:** Within 3 months of completion of corrective action

**Description:** Final report describing corrective action implementation.

#### **Task 6: Submit Mitigation Completion Report**

**Due Date:** Within 3 months of completion of mitigation

**Description:** Final report describing how mitigation has achieved the success criteria specified in the final Mitigation and Monitoring Plan approved by the Executive Officer. Upon receiving written approval of the Mitigation Completion Report, further submittal of mitigation monitoring reports will no longer be required.

### **D. PROVISIONS**

- 1. Monitoring Program:** Chevron Products Company shall comply with Monitoring Plan as approved, and as may be amended, by the Executive Officer.
- 2. Effluent Limitations for Return Water:** The treatment processes proposed for the return water from excavated sediments must be based on approved bench test results and must be sufficient to demonstrate that the discharge of treated return water will not adversely affect receiving water quality and its beneficial uses. At a minimum, the return water must meet the following effluent limitations:

Prior to Discharge to Castro Cove:

Total Suspended Solids (TSS):	30 mg/l	30-day Average
	45 mg/l	7-day Average

Total Mercury	2.1 µg/l	1-hr Average
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Total PAHs	15 µg/l	24-hr Averaged
pH:	6.5 - 8.5	
Whole Effluent Acute Toxicity:	Single-sample maximum of at least 70 percent survival of test organism in a 96-hour static test	

In the Receiving Water (outside of a 20 feet radius from the discharge point):

Turbidity:	Less than 10% variation from the background
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3. **Lab Qualifications:** All samples shall be analyzed by a State certified laboratory or laboratory accepted by the Water Board using approved US EPA methods for the type of analysis to be performed. All laboratories or the consultant shall be required to maintain quality assurance/quality control records for Water Board review.
4. **Good Operation and Maintenance (O&M):** Chevron Products Company shall maintain in good working order, and operate in the normal standard of care, any facility or control system installed to achieve compliance with the requirements of this Order.
5. **Access to Site and Records:** Chevron Products Company shall permit the Water Board or its authorized representative, in accordance with Section 13267© of the California Water Code:
  - a. Entry upon any project premises in which any pollution sources exist, or are suspected to exist, or inspection of any required records, which are relevant to this Order.
  - b. Access to copy any records required to be kept under the terms or conditions of this Order.
  - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
  - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by Chevron Products Company.
6. **Reporting of Changed Owner or Operator:** Chevron Products Company shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.
7. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is,

or probably will be, discharged in or on any waters of the State, Chevron Products Company shall report such discharge to the Water Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00), and the Office of Emergency Services at (800) 852-7550 during non-office hours.

A written report shall be filed with the Water Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

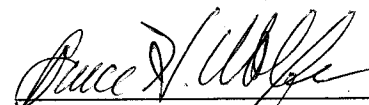
8. **Non-compliance:** If the Executive Officer finds that Chevron Products Company has failed to comply with the provisions of this Order, he/she is authorized to issue an Administrative Civil Liability complaint for Water Board consideration or, after approval of the Water Board Chairperson, to request the Attorney General to take appropriate action against Chevron Products Company, including injunctive and civil remedies, if appropriate.
9. **Cost Recovery:** Chevron Products Company shall be liable, pursuant to Section 13304 of the California Water Code, to the Water Board for all reasonable costs actually incurred by the Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial actions, required by this Order.
10. **Wetland Tracker System:** Chevron Products Company is required to use the standard Wetland Tracker form to provide project information describing impacts and mitigation/restoration measures within 14 days from the date of this Order. The completed Wetland Tracker form shall be submitted electronically to [wetlandtracker@waterboards.ca.gov](mailto:wetlandtracker@waterboards.ca.gov) or shall be submitted as a hard copy to the to the Water Board, to the attention of Wetland Tracker.
11. **Modification of Order:** Chevron Products Company may request an extension of any of the compliance dates specified in the Order, or other modifications or revisions and upon review. Similarly, this Order in no way limits the authority of the Water Board to require additional investigation and cleanup at the facility consistent with the California Water Code. This Order may be revised as additional information becomes available. Revisions may be made by the Executive Officer using authority delegated from the Water Board or may be made by the Water Board upon recommendation by the Executive Officer.
12. **Certification:** The Water Board hereby issues an order certifying that any discharge from the referenced project will comply with the applicable provisions of sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act, and with other applicable requirements of



State law. This discharge is also regulated under State Water Resources Control Board Order No. 2003 - 0017 - DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification" which requires compliance with all conditions of this Water Quality Certification. The following conditions are associated with this certification:

- a. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Section 13330 of the CWC and Section 3867 of Title 23 of the California Code of Regulations (23 CCR).
- b. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR Subsection 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- c. Certification is conditioned upon total payment of the full fee required in State regulations (23 CCR Section 3833) and owed by the applicant. The fee for this certification has been paid in full.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 13, 2006.

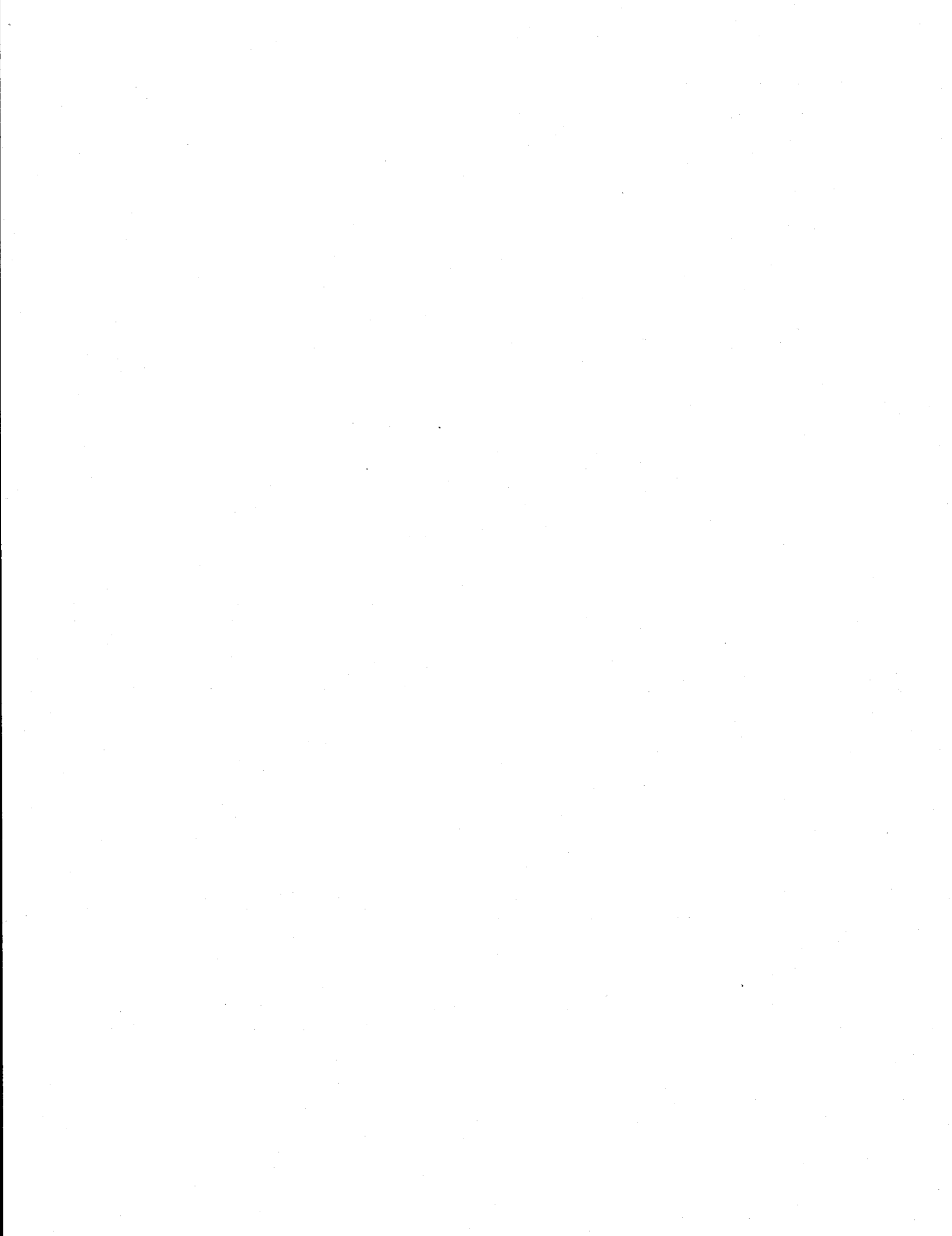
  
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BRUCE H. WOLFE  
Executive Officer

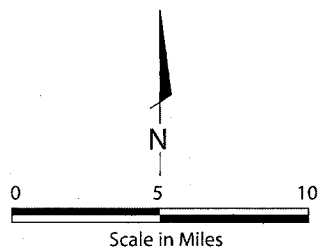
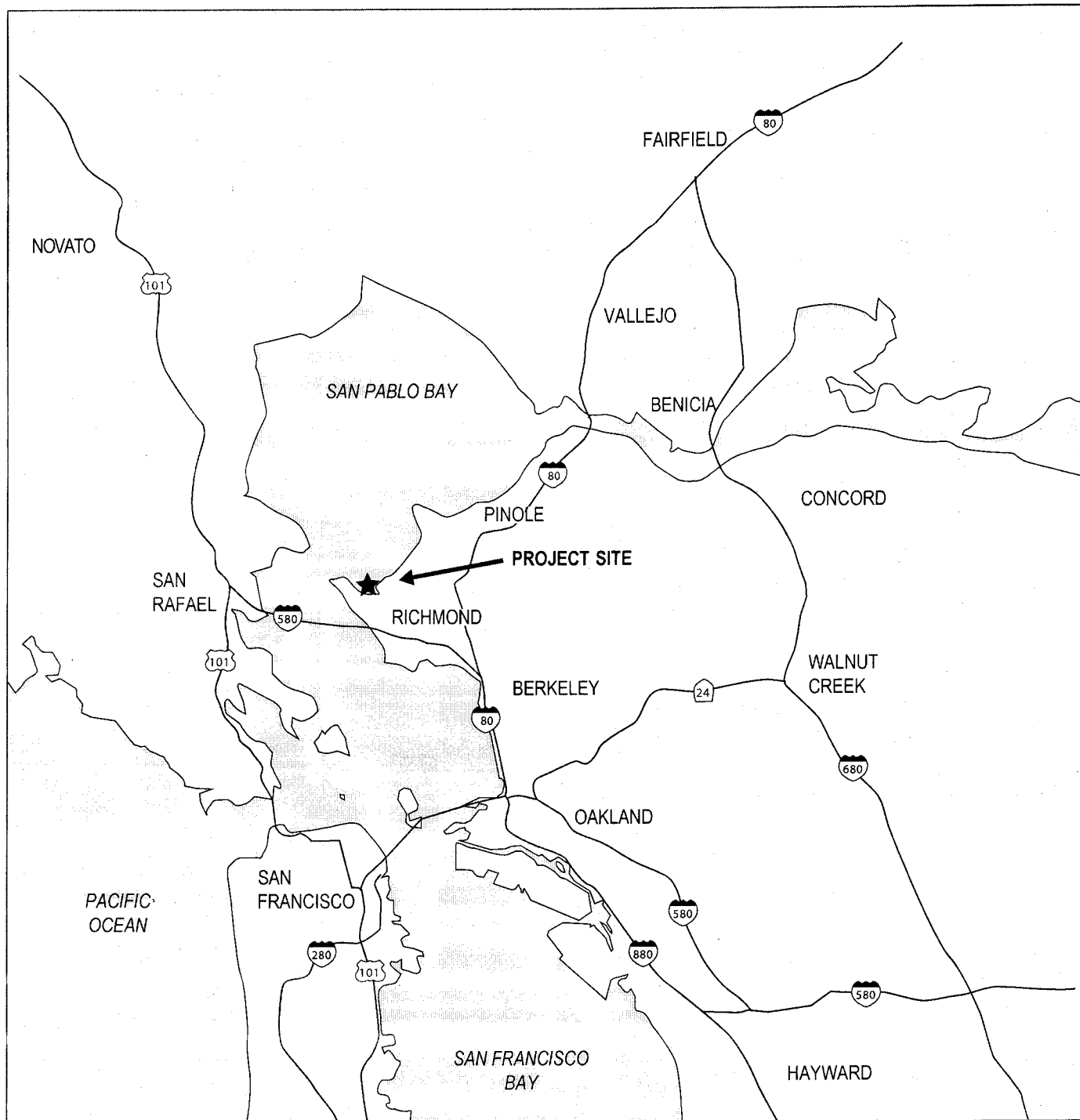
ATTACHMENTS:

Figure 1. Regional Location Map

Figure 2. Site Location Map

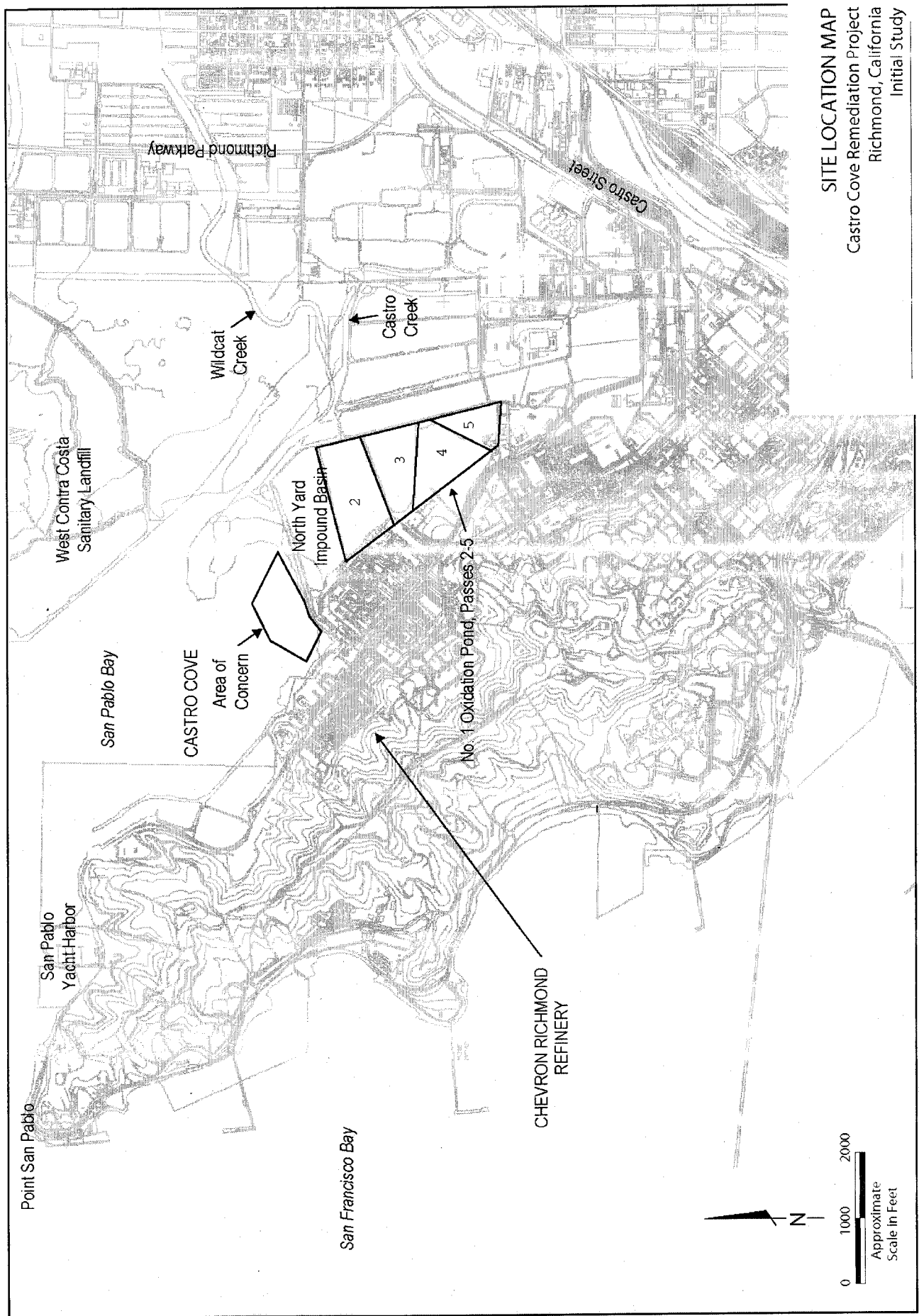
Figure 3. Delineation of Area of Concern and Limit of Excavation





REGIONAL LOCATION MAP  
 Castro Cove Remediation Project  
 Richmond, California  
 Initial Study

Figure 1



**SITE LOCATION MAP**  
Castro Cove Remediation Project  
Richmond, California  
Initial Study

Figure 2

